



December 13, 2023

Mr. Josh Peters  
On-Scene Coordinator  
U.S. Environmental Protection Agency, Region 5  
Superfund and Emergency Management Division  
2565 Plymouth Road  
Ann Arbor, MI 48105

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**Subject: Data Validation Report  
E Palestine Site - ER  
EPA Contract No.: 68HE0519D0005  
Task Order/Task Order Line-Item No.: 68HE0520F0032/0001EB201  
Document Tracking No. 2295**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting this data validation report for 47 air samples (including 3 field duplicate samples, 4 field blank samples, and 1 media blank samples) collected at the E Palestine site. The samples were collected on September 8 and 10, 2023, and were analyzed for acrylates by Eurofins Analytics, LLC. The final laboratory data package was received on September 14, 2023.

Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan, East Palestine Train Derailment Site, East Palestine, Columbiana County, Ohio*, Revision 3 (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5*, Revision 4 (August 2022), and the *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

No qualification or rejection of results was required for these data packages. The results may be used as reported by the laboratory.

Please contact me if you have any questions regarding this data validation report.

Sincerely,  
**Kierra  
Johnson**  
Environmental Chemist

Digitally signed by Kierra  
Johnson  
Date: 2023.12.13  
16:04:54 -07'00'

Enclosure

cc: Karl Schultz, Tetra Tech Program Manager  
Dustin Grams, Tetra Tech Project Manager  
Mayra Arroyo Ortiz, Tetra Tech Project Document Control Coordinator  
TO-TOLIN File

**ATTACHMENT**

**DATA VALIDATION REPORT  
EUROFINS ANALYTICS, LLC NOS.  
B255-138, B255-139, B255-140, AND B255-167**

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

|                       |   |              |                                       |
|-----------------------|---|--------------|---------------------------------------|
| Site Name             | E Palestine Site - ER   | TO/TOLIN No. | 68HE0520F0032/0001EB201               |
| Document Tracking No. | 2295a   |              |                                       |
| Laboratory Report No. | B255-138  | Laboratory   | Eurofins Analytics, LLC – Ashland, VA |
| Analyses              | 2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029 |              |                                       |
| Samples and Matrix    | Nine air samples including one field blank  |              |                                       |
| Collection Date(s)    | 09/10/2023  |              |                                       |
| Field Duplicate Pairs | None  |              |                                       |
| Field QC Blanks       | EPD-ST-FB-091023-1  |              |                                       |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan (QAPP), East Palestine Train Derailment Site, East Palestine, Columbiana County, Ohio*, Revision 3 (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5*, Revision 4 (August 2022), and the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

**OVERALL EVALUATION**

No rejection or qualification of results was required for this data package. The results may be used as reported by the laboratory.

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Data completeness:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | <p>The results for the field blank were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligrams per cubic meter (mg/m3), and parts per million (ppm) (volume) in the laboratory report and only in units of ppm in the laboratory electronic data deliverable (EDD).</p> <p>Rohm &amp; Haas IH9805 was cited in the AIHA certification as “IHGC-P029” and may be cited by the abbreviation “Rohm &amp; Haas IH9805” or “IHGC-P029” interchangeably throughout the laboratory report.</p> <p>Note, the following fields in the laboratory EDD may be formatted as date only or as date/time: Date_Collected, Date_Received, Date_Extracted, and Date_Analyzed. The time value was not required to be provided in the EDD. If no time value was provided, then the entered value may appear as date only or with a default time value of 0:00, 00:00, or similar.</p> <p>The Date_Analyzed for LCSD IHG230912E 10X was incorrect and updated to 09/13/2023 22:13, to match Form 8 Analytical Sequence in the Level IV data package.</p> |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Surrogates and labeled compounds:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**MS/MSDs:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**Laboratory duplicates:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**Field duplicates:**

| Within<br>Criteria | Exceedance/Notes   |
|--------------------|--|
| N                  | Per the site-specific QAPP, 1 field duplicate sample is required per 20 samples collected. However, fewer than 1 field duplicate sample per 20 samples were collected with this sample group. Based on professional judgement, no qualifications were applied. |

**LCSs/LCSDs:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| Y                  |                  |

**Sample dilutions:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Re-extraction and reanalysis:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**MDLs/RLs:**

| Within<br>Criteria | Exceedance/Notes   |
|--------------------|--|
| Y                  | Method detection limits were not reported. Nondetect sample results were reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the validated EDD and attached analytical results summary. |

**Tentatively identified compounds:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**Other [None]:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS, LLC REPORT NO. B255-138

| Sample_ID                | Method    | CAS#     | Analyte               | Lab Result | Lab Qual | RL    | Units | VAL_Result | VAL_Qual |
|--------------------------|-----------|----------|-----------------------|------------|----------|-------|-------|------------|----------|
| EPD-ST-8H-DW-E-091023-1  | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-DW-E-091023-1  | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-UW-A-091023-1  | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-UW-A-091023-1  | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-01-091023-1 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-01-091023-1 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-02-091023-1 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-02-091023-1 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-03-091023-1 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-03-091023-1 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-04-091023-1 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.014      | U        | 0.014 | ppm   | 0.014      | U        |
| EPD-ST-8H-WA-04-091023-1 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-05-091023-1 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-05-091023-1 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-06-091023-1 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-06-091023-1 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-FB-091023-1       | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 2.8        | U        | 2.8   | ug    | 2.8        | U        |
| EPD-ST-FB-091023-1       | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 1.3        | U        | 1.3   | ug    | 1.3        | U        |



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

|                       |  |              |                                       |
|-----------------------|--|--------------|---------------------------------------|
| Site Name             | E Palestine Site - ER  | TO/TOLIN No. | 68HE0520F0032/0001EB201               |
| Document Tracking No. | 2295b  |              |                                       |
| Laboratory Report No. | B255-139   | Laboratory   | Eurofins Analytics, LLC – Ashland, VA |
| Analyses              | n-Butyl acrylate by NIOSH Method 1450M   |              |                                       |
| Samples and Matrix    | 19 air samples including 1 field blank, 1 media blank, and 2 field duplicate pairs       |              |                                       |
| Collection Date(s)    | 09/10/2023   |              |                                       |
| Field Duplicate Pairs | EPD-PB-OD-03-091023 / EPD-PB-OD-033-091023<br>EPD-PB-WA-06-091023 / EPD-PB-WA-066-091023 |              |                                       |
| Field QC Blanks       | EPD-PB-FB-01-091023 and EPD-PB-MB-01-091023  |              |                                       |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan (QAPP), East Palestine Train Derailment Site, East Palestine, Columbiana County, Ohio*, Revision 3 (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5*, Revision 4 (August 2022), and the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

**OVERALL EVALUATION**

No rejection or qualification of results was required for this data package. The results may be used as reported by the laboratory.

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Data completeness:**

| Within Criteria | Exceedance/Notes  |
|-----------------|---|
| N               | <p>The results for the field blank and media blank were reported in units of micrograms (µg) while the other field sample results were reported in units of µg, milligrams per cubic meter (mg/m3), and parts per million (ppm) (volume) in the laboratory report and only in units of ppm in the laboratory electronic data deliverable (EDD).</p> <p>The site-specific QAPP specifies analysis of acrylates in air by Eurofins Analytics, LLC standard operating procedure (SOP) IHGC-001-v.22-3. The laboratory confirmed that NIOSH Method 1450M, which is mentioned in the laboratory deliverables, is equivalent to SOP IHGC-001-v.22-3; therefore, these method references may be used interchangeably.</p> <p>Note, the following fields in the laboratory EDD may be formatted as date only or as date/time: Date_Collected, Date_Received, Date_Extracted, and Date_Analyzed. The time value was not required to be provided in the EDD. If no time value was provided, then the entered value may appear as date only or with a default time value of 0:00, 00:00, or similar.</p> <p>The Date_Analyzed for LCSD IHG230912C was incorrect and updated to 09/13/2023 02:41, to match Form 8 Analytical Sequence in the Level IV data package.</p> |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Field blanks:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| Y                  |                  |

**Surrogates and labeled compounds:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**MS/MSDs:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**Laboratory duplicates:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**Field duplicates:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| Y                  |                  |

**LCSs/LCSDs:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| Y                  |                  |

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Sample dilutions:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**Re-extraction and reanalysis:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**MDLs/RLs:**

| Within<br>Criteria | Exceedance/Notes   |
|--------------------|--|
| Y                  | Method detection limits were not reported. Nondetect sample results were reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the validated EDD and attached analytical results summary. |

**Tentatively identified compounds:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**Other [None]:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS, LLC REPORT NO. B255-139

| Sample_ID            | Method             | CAS#     | Analyte          | Lab Result | Lab Qual | RL     | Units | VAL_Result | VAL_Qual |
|----------------------|--------------------|----------|------------------|------------|----------|--------|-------|------------|----------|
| EPD-PB-DW-E-091023   | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-FB-01-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 2          | U        | 2      | ug    | 2          | U        |
| EPD-PB-MB-01-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 2          | U        | 2      | ug    | 2          | U        |
| EPD-PB-OD-01-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-OD-02-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-OD-03-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-OD-033-091023 | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-OD-04-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-OD-05-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-OD-06-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-OD-07-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-UW-A-091023   | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-WA-01-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-WA-02-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-WA-03-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-WA-04-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-WA-05-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-WA-06-091023  | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |
| EPD-PB-WA-066-091023 | NIOSH Method 1450M | 141-32-2 | n-Butyl acrylate | 0.0045     | U        | 0.0045 | ppm   | 0.0045     | U        |

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

|                       |   |              |                                       |
|-----------------------|---|--------------|---------------------------------------|
| Site Name             | E Palestine Site - ER   | TO/TOLIN No. | 68HE0520F0032/0001EB201               |
| Document Tracking No. | 2295c   |              |                                       |
| Laboratory Report No. | B255-140  | Laboratory   | Eurofins Analytics, LLC – Ashland, VA |
| Analyses              | 2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029 |              |                                       |
| Samples and Matrix    | 10 air samples including 1 field blank and 1 field duplicate pair                                     |              |                                       |
| Collection Date(s)    | 09/10/2023  |              |                                       |
| Field Duplicate Pairs | EPD-ST-8H-WA-06-091023-2 / EPD-ST-8H-WA-66-091023-2   |              |                                       |
| Field QC Blanks       | EPD-ST-FB-091023-2  |              |                                       |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan, East Palestine Train Derailment Site, East Palestine, Columbiana County, Ohio*, Revision 3 (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5*, Revision 4 (August 2022), and the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

**OVERALL EVALUATION**

No rejection or qualification of results was required for this data package. The results may be used as reported by the laboratory.

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Data completeness:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | <p>The results for the field blank were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligrams per cubic meter (mg/m3), and parts per million (ppm) (volume) in the laboratory report and only in units of ppm in the laboratory electronic data deliverable (EDD).</p> <p>Rohm &amp; Haas IH9805 was cited in the AIHA certification as “IHGC-P029” and may be cited by the abbreviation “Rohm &amp; Haas IH9805” or “IHGC-P029” interchangeably throughout the laboratory report.</p> <p>Note, the following fields in the laboratory EDD may be formatted as date only or as date/time: Date_Collected, Date_Received, Date_Extracted, and Date_Analyzed. The time value was not required to be provided in the EDD. If no time value was provided, then the entered value may appear as date only or with a default time value of 0:00, 00:00, or similar.</p> <p>The Date_Analyzed for LCSD IHG230912E 10X was incorrect and updated to 09/13/2023 22:13, to match Form 8 Analytical Sequence in the Level IV data package.</p> |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |



**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Surrogates and labeled compounds:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**MS/MSDs:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**Laboratory duplicates:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**Field duplicates:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| Y                  |                  |

**LCSs/LCSDs:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| Y                  |                  |

**Sample dilutions:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Re-extraction and reanalysis:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**MDLs/RLs:**

| Within<br>Criteria | Exceedance/Notes   |
|--------------------|--|
| Y                  | Method detection limits were not reported. Nondetect sample results were reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the validated EDD and attached analytical results summary. |

**Tentatively identified compounds:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**Other [None]:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS, LLC REPORT NO. B255-140

| Sample_ID                | Method    | CAS#     | Analyte               | Lab Result | Lab Qual | RL    | Units | VAL_Result | VAL_Qual |
|--------------------------|-----------|----------|-----------------------|------------|----------|-------|-------|------------|----------|
| EPD-ST-8H-DW-E-091023-2  | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-DW-E-091023-2  | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-UW-A-091023-2  | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-UW-A-091023-2  | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-01-091023-2 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-01-091023-2 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-02-091023-2 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-02-091023-2 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-03-091023-2 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-03-091023-2 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-04-091023-2 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-04-091023-2 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-05-091023-2 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-05-091023-2 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-06-091023-2 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-06-091023-2 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-66-091023-2 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-66-091023-2 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-FB-091023-2       | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 2.8        | U        | 2.8   | ug    | 2.8        | U        |
| EPD-ST-FB-091023-2       | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 1.3        | U        | 1.3   | ug    | 1.3        | U        |

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

|                       |   |              |                                       |
|-----------------------|---|--------------|---------------------------------------|
| Site Name             | E Palestine Site - ER   | TO/TOLIN No. | 68HE0520F0032/0001EB201               |
| Document Tracking No. | 2295d   |              |                                       |
| Laboratory Report No. | B255-167  | Laboratory   | Eurofins Analytics, LLC – Ashland, VA |
| Analyses              | 2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029 |              |                                       |
| Samples and Matrix    | Nine air samples including one field blank  |              |                                       |
| Collection Date(s)    | 09/08/2023  |              |                                       |
| Field Duplicate Pairs | None  |              |                                       |
| Field QC Blanks       | EPD-ST-FB-090823-1  |              |                                       |

**INTRODUCTION**

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan (QAPP), East Palestine Train Derailment Site, East Palestine, Columbiana County, Ohio*, Revision 3 (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5*, Revision 4 (August 2022), and the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

**OVERALL EVALUATION**

No rejection or qualification of results was required for this data package. The results may be used as reported by the laboratory.

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Data completeness:**

| Within Criteria | Exceedance/Notes   |
|-----------------|--|
| N               | <p>The results for the field blank were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligrams per cubic meter (mg/m3), and parts per million (ppm) (volume) in the laboratory report and only in units of ppm in the laboratory electronic data deliverable (EDD).</p> <p>Rohm &amp; Haas IH9805 was cited in the AIHA certification as “IHGC-P029” and may be cited by the abbreviation “Rohm &amp; Haas IH9805” or “IHGC-P029” interchangeably throughout the laboratory report.</p> <p>Note, the following fields in the laboratory EDD may be formatted as date only or as date/time: Date_Collected, Date_Received, Date_Extracted, and Date_Analyzed. The time value was not required to be provided in the EDD. If no time value was provided, then the entered value may appear as date only or with a default time value of 0:00, 00:00, or similar.</p> <p>The Date_Analyzed for LCSD IHG230912G 10X was incorrect and updated to 09/13/2023 18:44, to match Form 8 Analytical Sequence in the Level IV data package.</p> |

**Sample preservation, receipt, and holding times:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Method blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**Field blanks:**

| Within Criteria | Exceedance/Notes |
|-----------------|------------------|
| Y               |                  |

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Surrogates and labeled compounds:**

| <b>Within Criteria</b> | <b>Exceedance/Notes</b> |
|------------------------|-------------------------|
| NA                     |                         |

**MS/MSDs:**

| <b>Within Criteria</b> | <b>Exceedance/Notes</b> |
|------------------------|-------------------------|
| NA                     |                         |

**Laboratory duplicates:**

| <b>Within Criteria</b> | <b>Exceedance/Notes</b> |
|------------------------|-------------------------|
| NA                     |                         |

**Field duplicates:**

| <b>Within Criteria</b> | <b>Exceedance/Notes</b>  |
|------------------------|--|
| N                      | Per the site-specific QAPP, 1 field duplicate sample is required per 20 samples collected. However, fewer than 1 field duplicate sample per 20 samples were collected with this sample group. Based on professional judgement, no qualifications were applied. |

**LCSs/LCSDs:**

| <b>Within Criteria</b> | <b>Exceedance/Notes</b> |
|------------------------|-------------------------|
| Y                      |                         |

**Sample dilutions:**

| <b>Within Criteria</b> | <b>Exceedance/Notes</b> |
|------------------------|-------------------------|
| NA                     |                         |

**DATA VALIDATION CHECKLIST – STAGE 2A  
EPA REGION 5 START CONTRACT**

**Re-extraction and reanalysis:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**MDLs/RLs:**

| Within<br>Criteria | Exceedance/Notes   |
|--------------------|--|
| Y                  | Method detection limits were not reported. Nondetect sample results were reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the validated EDD and attached analytical results summary. |

**Tentatively identified compounds:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |

**Other [None]:**

| Within<br>Criteria | Exceedance/Notes |
|--------------------|------------------|
| NA                 |                  |



## DATA VALIDATION CHECKLIST – STAGE 2A EPA REGION 5 START CONTRACT

### Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

|    |   |
|----|---|
| J  | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.  |
| J+ | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.   |
| J- | The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.  |
| NJ | The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.                    |
| R  | The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.                                 |
| U  | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).  |
| UJ | The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria. |

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
EUROFINS ANALYTICS, LLC REPORT NO. B255-167

| Sample_ID                | Method    | CAS#     | Analyte               | Lab Result | Lab Qual | RL    | Units | VAL_Result | VAL_Qual |
|--------------------------|-----------|----------|-----------------------|------------|----------|-------|-------|------------|----------|
| EPD-ST-8H-DW-B-090823-1  | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-DW-B-090823-1  | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-UW-F-090823-1  | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-UW-F-090823-1  | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-01-090823-1 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-01-090823-1 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-02-090823-1 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-02-090823-1 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-03-090823-1 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-03-090823-1 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-04-090823-1 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-04-090823-1 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-05-090823-1 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-05-090823-1 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-8H-WA-06-090823-1 | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 0.015      | U        | 0.015 | ppm   | 0.015      | U        |
| EPD-ST-8H-WA-06-090823-1 | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 0.01       | U        | 0.01  | ppm   | 0.01       | U        |
| EPD-ST-FB-090823-1       | IHGC-P029 | 103-11-7 | 2-Ethylhexyl acrylate | 2.8        | U        | 2.8   | ug    | 2.8        | U        |
| EPD-ST-FB-090823-1       | IHGC-P029 | 141-32-2 | n-Butyl acrylate      | 1.3        | U        | 1.3   | ug    | 1.3        | U        |