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July 3, 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

**Subject: Data Validation Report  
E Palestine Site - ER  
EPA Contract No.: 68HE0519D0005  
Task Order/Task Order Line Item No.: 68HE0520F0032/0001EB201  
Document Tracking No. 1879**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting this data validation report for 56 air samples (including 2 field blank samples) collected at the E Palestine ER. The samples were collected on March 14, 16 and 19, 2023, and were analyzed for acrylates by Eurofins Analytics of Ashland, Virginia. The final laboratory data package was received on June 29, 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, EPA Region 5, 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), the *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020), and the *EPA NFG for Inorganic Superfund Methods Data Review* (November 2020).

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

If you have any questions regarding this data validation report, please feel free to contact me.

Sincerely,

Environmental Chemist

Enclosure

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

Alicia  
Labare

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Alicia Labare  
Date: 2023.07.03  
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**ATTACHMENT**

**DATA VALIDATION REPORT  
EUROFINS ANALYTICS REPORT NOS.  
B074-035, B074-043, B076-193, B080-158**

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1879a	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B074-035	by laboratory standard operating procedure (SOP) IHGC-P029	
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	Ten air samples including one field blank		
Collection Date(s)	03/14/2023		
Field Duplicate Pairs	None		
Field QC Blanks	EPD-ST-FB-031423-1		

**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 the Tetra Tech Quality Assurance Project Plan East Palestine Train Derailment Site East Palestine, Columbiana County, Ohio, EPA Region 5, 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:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	<p>The laboratory report was originally reported on 03/21/23 and amended on 03/29/23 to include a revised field chain-of custody (COC). The laboratory report was revised on 06/16/2023 to correct a sample time and a numerical discrepancy between the report and the electronic data deliverable (EDD) for the LCS/LCSD.</p> <p>Level II SDG did not have required QC forms thus the Level IV package was reviewed.</p> <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, milligram per cubic meter (mg/m<sup>3</sup>), and parts per million (ppm) (volume) in the laboratory report and only ppm in the EDD.</p> <p>The laboratory report included the following note: “The method reference, Rohm &amp; Haas IH9805 is referenced to the AIHA certification as IHGC-P029.” The method is referred to by the abbreviation “Rohm &amp; Haas IH9805” or “IHGC-P029” interchangeably.</p> <p>The extraction date information in the EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the EDD; therefore, all extraction date information except the field header was deleted from the EDD.</p> <p>The sample analysis time was reported as default value 12 AM or 000 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>

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

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	<p>Ten samples were included in this laboratory report. The other 27 samples listed on the field COC were reported in other data packages.</p> <p>Sample EPD-ST-UW-01-031423-2 was included on the COC but was not shipped to the laboratory due to a pump failure.</p> <p>Sample EPD-ST-8H-DW-01-031423-1 was incorrectly labeled on the sample bag as EPD-ST-8H-DW-01-031423-2. The sample ID was updated to match the field COC. No qualification was applied.</p>

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

**Method blanks:**

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

**Field blanks:**

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

**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>
NA	

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

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

**Re-extraction and reanalysis:**

Within Criteria	Exceedance/Notes
NA	

**MDLs/RLs:**

Within Criteria	Exceedance/Notes
Y	Method detection limits were not reported. Non-detect sample results were reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and attached qualified data table.

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
NA	

**Other [Continuing calibration]:**

Within Criteria	Exceedance/Notes
N	The %D of 2-ethylhexyl acrylate in CCV 061F06401 (column 1) exceeded the control limits. Associated sample results were non-detect, therefore, the results were not qualified.

**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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
 EUROFINS ANALYTICS REPORT NO. B074-035

Sample ID	Method	CAS#	Analyte	Lab Result	Lab Qual	MDL	RL	Units	VAL Result	VAL Qual
EPD-ST-8H-DW-01-031423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.012 U	U		0.012	ppm	0.012	U
EPD-ST-8H-DW-01-031423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.008 U	U		0.008	ppm	0.008	U
EPD-ST-DW-01-031423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.034 U	U		0.034	ppm	0.034	U
EPD-ST-DW-01-031423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.022 U	U		0.022	ppm	0.022	U
EPD-ST-FB-031423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U	U		2.8	ug	2.8	U
EPD-ST-FB-031423-1	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U	U		1.3	ug	1.3	U
EPD-ST-UW-01-031423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.031 U	U		0.031	ppm	0.031	U
EPD-ST-UW-01-031423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U	U		0.02	ppm	0.02	U
EPD-ST-WA-01-031423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.029 U	U		0.029	ppm	0.029	U
EPD-ST-WA-01-031423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.019 U	U		0.019	ppm	0.019	U
EPD-ST-WA-02-031423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.03 U	U		0.03	ppm	0.03	U
EPD-ST-WA-02-031423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U	U		0.02	ppm	0.02	U
EPD-ST-WA-03-031423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.028 U	U		0.028	ppm	0.028	U
EPD-ST-WA-03-031423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.018 U	U		0.018	ppm	0.018	U
EPD-ST-WA-04-031423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.029 U	U		0.029	ppm	0.029	U
EPD-ST-WA-04-031423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.019 U	U		0.019	ppm	0.019	U
EPD-ST-WA-05-031423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.03 U	U		0.03	ppm	0.03	U
EPD-ST-WA-05-031423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U	U		0.02	ppm	0.02	U
EPD-ST-WA-06-031423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.029 U	U		0.029	ppm	0.029	U
EPD-ST-WA-06-031423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U	U		0.02	ppm	0.02	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.	1879b	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B074-043		
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	Ten air samples		
Collection Date(s)	03/14/2023		
Field Duplicate Pairs	None		
Field QC Blanks	None		

**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, EPA Region 5, 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:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	<p>Level II SDG did not have required QC forms thus the Level IV package was reviewed.</p> <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, milligram per cubic meter (mg/m<sup>3</sup>), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>The laboratory report included the following note: “The method reference, Rohm &amp; Haas IH9805 is referenced to the AIHA certification as IHGC-P029.” The method is referred to by the abbreviation “Rohm &amp; Haas IH9805” or “IHGC-P029” interchangeably.</p> <p>The extraction date information in the EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the EDD; therefore, all extraction date information except the field header was deleted from the EDD.</p> <p>The sample analysis time was reported as default value 12 AM or 000 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>

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

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	<p>Ten samples were included in this laboratory report. The other 27 samples listed on the field chain of custody (COC) were reported in other data packages.</p> <p>Sample EPD-ST-UW-01-031423-2 was included on the COC but was not shipped to the laboratory due to a pump failure.</p> <p>Sample EPD-ST-8H-WA-02-031423-2 was incorrectly labeled on the sample bag as EPD-ST-BH-WA-02-031423-4. The sample ID was updated by the lab to match the COC. No qualification was applied.</p>

**Method blanks:**

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

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

**Field blanks:**

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

**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>
NA	

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

**LCSs/LCSDs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	The LCS/LCSD results and recovery values provided in the EDD did not match the laboratory report. The laboratory was contacted to verify that the values in the laboratory report were correct. The laboratory revised the EDD on 06/16/2023, confirming the report values. The LCS/LCSD results and recovery values in the original EDD were manually revised to match the laboratory report and revised EDD.  The laboratory report and EDD had a minor discrepancy in the LCSD percent recovery (+/- 1%) that was verified with the laboratory to be a significant figures issue. No qualification was applied.

**Sample dilutions:**

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

**Re-extraction and reanalysis:**

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

**MDLs/RLs:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Method detection limits were not reported. Non-detect sample results were reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and attached qualified data table.

**Tentatively identified compounds:**

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

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

**Other [Continuing calibration]:**

Within Criteria	Exceedance/Notes
N	The %D of 2-ethylhexyl acrylate in CCV 061F06401 (column 1) exceeded the control limits. The sample results were non-detect, therefore, the results were not qualified.

**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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
 EUROFINS ANALYTICS REPORT NO. B074-043

Sample ID	Method	CAS#	Analyte	Lab Result	Lab Qual	MDL	RL	Units	VAL Result	VAL Qual
EPD-ST-8H-DW-01-031423-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.019 U			0.019	ppm	0.019 U	0.019 U
EPD-ST-8H-DW-01-031423-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.013 U			0.013	ppm	0.013 U	0.013 U
EPD-ST-8H-WA-02-031423-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.02 U			0.02	ppm	0.02 U	0.02 U
EPD-ST-8H-WA-02-031423-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.014 U			0.014	ppm	0.014 U	0.014 U
EPD-ST-DW-01-031423-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.034 U			0.034	ppm	0.034 U	0.034 U
EPD-ST-DW-01-031423-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.023 U			0.023	ppm	0.023 U	0.023 U
EPD-ST-UW-01-031423-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.03 U			0.03	ppm	0.03 U	0.03 U
EPD-ST-UW-01-031423-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U			0.02	ppm	0.02 U	0.02 U
EPD-ST-WA-01-031423-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.031 U			0.031	ppm	0.031 U	0.031 U
EPD-ST-WA-01-031423-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.021 U			0.021	ppm	0.021 U	0.021 U
EPD-ST-WA-02-031423-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.034 U			0.034	ppm	0.034 U	0.034 U
EPD-ST-WA-02-031423-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.023 U			0.023	ppm	0.023 U	0.023 U
EPD-ST-WA-03-031423-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.035 U			0.035	ppm	0.035 U	0.035 U
EPD-ST-WA-03-031423-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.023 U			0.023	ppm	0.023 U	0.023 U
EPD-ST-WA-04-031423-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.031 U			0.031	ppm	0.031 U	0.031 U
EPD-ST-WA-04-031423-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U			0.02	ppm	0.02 U	0.02 U
EPD-ST-WA-05-031423-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.032 U			0.032	ppm	0.032 U	0.032 U
EPD-ST-WA-05-031423-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.022 U			0.022	ppm	0.022 U	0.022 U
EPD-ST-WA-06-031423-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.034 U			0.034	ppm	0.034 U	0.034 U
EPD-ST-WA-06-031423-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.022 U			0.022	ppm	0.022 U	0.022 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.	1879d	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B076-193		
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	17 air samples		
Collection Date(s)	03/16/2023		
Field Duplicate Pairs	None		
Field QC Blanks	None		

**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, EPA Region 5, 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:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	<p>Laboratory report was originally reported on 03/20/23 and amended on 03/31/23 to include a signed field chain-of-custody (COC). Level II SDG did not have required QC forms thus the Level IV package was reviewed.</p> <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, milligram per cubic meter (mg/m<sup>3</sup>), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>The laboratory report included the following note: “The method reference, Rohm &amp; Haas IH9805 is referenced to the AIHA certification as IHGC-P029.” The method is referred to by the abbreviation “Rohm &amp; Haas IH9805” or “IHGC-P029” interchangeably.</p> <p>The extraction date information in the EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the EDD; therefore, all extraction date information except the field header was deleted from the EDD.</p> <p>The sample analysis time was reported as default value 12 AM or 000 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>

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

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	Sample EPD-ST-WA-06-031623-4 was listed on the COC but was not shipped due to a pump failure.

**Method blanks:**

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



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

**Field blanks:**

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

**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>
NA	

**LCs/LCSDs:**

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

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

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

**Re-extraction and reanalysis:**

Within Criteria	Exceedance/Notes
NA	

**MDLs/RLs:**

Within Criteria	Exceedance/Notes
Y	Method detection limits were not reported. Non-detect sample results were reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and attached qualified data table.

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
NA	

**Other [none]:**

Within 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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
 EUROFINS ANALYTICS REPORT NO. B076-193

Sample ID	Method	CAS#	Analyte	Lab Result	Lab Qual	MDL	RL	Units	VAL Result	VAL Qual
EPD-ST-8H-DW-01-031623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.018 U			0.018	ppm	0.018	U
EPD-ST-8H-DW-01-031623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.012 U			0.012	ppm	0.012	U
EPD-ST-8H-WA-06-031623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.018 U			0.018	ppm	0.018	U
EPD-ST-8H-WA-06-031623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.012 U			0.012	ppm	0.012	U
EPD-ST-DW-01-031623-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.03 U			0.03	ppm	0.03	U
EPD-ST-DW-01-031623-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U			0.02	ppm	0.02	U
EPD-ST-DW-01-031623-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.032 U			0.032	ppm	0.032	U
EPD-ST-DW-01-031623-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.021 U			0.021	ppm	0.021	U
EPD-ST-UW-01-031623-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.031 U			0.031	ppm	0.031	U
EPD-ST-UW-01-031623-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.021 U			0.021	ppm	0.021	U
EPD-ST-UW-01-031623-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.031 U			0.031	ppm	0.031	U
EPD-ST-UW-01-031623-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.021 U			0.021	ppm	0.021	U
EPD-ST-WA-01-031623-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.028 U			0.028	ppm	0.028	U
EPD-ST-WA-01-031623-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.019 U			0.019	ppm	0.019	U
EPD-ST-WA-01-031623-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.036 U			0.036	ppm	0.036	U
EPD-ST-WA-01-031623-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.024 U			0.024	ppm	0.024	U
EPD-ST-WA-02-031623-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.03 U			0.03	ppm	0.03	U
EPD-ST-WA-02-031623-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U			0.02	ppm	0.02	U
EPD-ST-WA-02-031623-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.033 U			0.033	ppm	0.033	U
EPD-ST-WA-02-031623-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.022 U			0.022	ppm	0.022	U
EPD-ST-WA-03-031623-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.03 U			0.03	ppm	0.03	U
EPD-ST-WA-03-031623-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U			0.02	ppm	0.02	U
EPD-ST-WA-03-031623-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.03 U			0.03	ppm	0.03	U
EPD-ST-WA-03-031623-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U			0.02	ppm	0.02	U
EPD-ST-WA-04-031623-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.029 U			0.029	ppm	0.029	U
EPD-ST-WA-04-031623-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.019 U			0.019	ppm	0.019	U
EPD-ST-WA-04-031623-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.033 U			0.033	ppm	0.033	U
EPD-ST-WA-04-031623-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.022 U			0.022	ppm	0.022	U
EPD-ST-WA-05-031623-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.028 U			0.028	ppm	0.028	U
EPD-ST-WA-05-031623-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.019 U			0.019	ppm	0.019	U
EPD-ST-WA-05-031623-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.027 U			0.027	ppm	0.027	U
EPD-ST-WA-05-031623-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.018 U			0.018	ppm	0.018	U
EPD-ST-WA-06-031623-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.028 U			0.028	ppm	0.028	U
EPD-ST-WA-06-031623-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.018 U			0.018	ppm	0.018	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.	1879c	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B080-158	by laboratory standard operating procedure (SOP) IHGC-	
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-		
Samples and Matrix	Nineteen air samples including one field blank		
Collection Date(s)	03/19/2023		
Field Duplicate Pairs	None		
Field QC Blanks	EPD-ST-FB-031923-2		

**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, EPA Region 5, 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:**

<b>Within Criteria</b>	<b>Exceedance/Notes</b>
Y	<p>The laboratory report was originally reported on 03/22/23 and amended on 03/31/23 to correct air volumes on samples EPD-ST-WA-03-031923-4, EPD-ST-WA-06-031923-3, and EPD-ST-WA-02-031923-3, per client request. The laboratory report was revised on 06/29/2023 to correct a numerical discrepancy between the laboratory report and the electronic data deliverable (EDD) for the LCS/LCSD.</p> <p>Level II SDG did not have the required QC forms thus a Level IV package was reviewed.</p> <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, milligram per cubic meter (mg/m<sup>3</sup>), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>The laboratory report included the following note: “The method reference, Rohm &amp; Haas IH9805 is referenced to the AIHA certification as IHGC-P029.” The method is referred to by the abbreviation “Rohm &amp; Haas IH9805” or “IHGC-P029” interchangeably.</p> <p>The extraction date information in the EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the EDD; therefore, all extraction date information except the field header was deleted from the EDD.</p> <p>The sample analysis time was reported as default value 12 AM or 000 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>

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

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

**Method blanks:**

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

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

**Field blanks:**

Within Criteria	Exceedance/Notes
Y	

**Surrogates and labeled compounds:**

Within Criteria	Exceedance/Notes
NA	

**MS/MSDs:**

Within Criteria	Exceedance/Notes
NA	

**Laboratory duplicates:**

Within Criteria	Exceedance/Notes
NA	

**Field duplicates:**

Within Criteria	Exceedance/Notes
NA	

**LCs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	The recoveries for 2-ethylhexyl acrylate exceeded the control limits. The sample results were non-detect, therefore, the results were not qualified.

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

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

**Re-extraction and reanalysis:**

Within Criteria	Exceedance/Notes
NA	

**MDLs/RLs:**

Within Criteria	Exceedance/Notes
Y	Method detection limits were not reported. Non-detect sample results are reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and attached qualified data table.

**Tentatively identified compounds:**

Within Criteria	Exceedance/Notes
NA	

**Other [none]:**

Within 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.
NF	The tentatively identified compound was manually searched for but was not found in the sample.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY  
 EUROFINS ANALYTICS REPORT NO. B080-158

Sample ID	Method	CAS#	Analyte	Lab Result	Lab Qual	MDL	RL	Units	VAL Result	VAL Qual
EPD-ST-8H-DW-01-031923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.019 U				0.019 ppm	0.019 U	0.019 U
EPD-ST-8H-DW-01-031923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.013 U				0.013 ppm	0.013 U	0.013 U
EPD-ST-8H-WA-04-031923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.018 U				0.018 ppm	0.018 U	0.018 U
EPD-ST-8H-WA-04-031923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.012 U				0.012 ppm	0.012 U	0.012 U
EPD-ST-DW-01-031923-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.031 U				0.031 ppm	0.031 U	0.031 U
EPD-ST-DW-01-031923-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.021 U				0.021 ppm	0.021 U	0.021 U
EPD-ST-DW-01-031923-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.03 U				0.03 ppm	0.03 U	0.03 U
EPD-ST-DW-01-031923-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U				0.02 ppm	0.02 U	0.02 U
EPD-ST-FB-031923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U				2.8 ug	2.8 U	2.8 U
EPD-ST-FB-031923-2	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U				1.3 ug	1.3 U	1.3 U
EPD-ST-UW-01-031923-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.027 U				0.027 ppm	0.027 U	0.027 U
EPD-ST-UW-01-031923-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.018 U				0.018 ppm	0.018 U	0.018 U
EPD-ST-UW-01-031923-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.029 U				0.029 ppm	0.029 U	0.029 U
EPD-ST-UW-01-031923-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U				0.02 ppm	0.02 U	0.02 U
EPD-ST-WA-01-031923-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.028 U				0.028 ppm	0.028 U	0.028 U
EPD-ST-WA-01-031923-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.019 U				0.019 ppm	0.019 U	0.019 U
EPD-ST-WA-01-031923-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.031 U				0.031 ppm	0.031 U	0.031 U
EPD-ST-WA-01-031923-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.021 U				0.021 ppm	0.021 U	0.021 U
EPD-ST-WA-02-031923-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.029 U				0.029 ppm	0.029 U	0.029 U
EPD-ST-WA-02-031923-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.019 U				0.019 ppm	0.019 U	0.019 U
EPD-ST-WA-02-031923-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.033 U				0.033 ppm	0.033 U	0.033 U
EPD-ST-WA-02-031923-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.022 U				0.022 ppm	0.022 U	0.022 U
EPD-ST-WA-03-031923-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.027 U				0.027 ppm	0.027 U	0.027 U
EPD-ST-WA-03-031923-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.018 U				0.018 ppm	0.018 U	0.018 U
EPD-ST-WA-03-031923-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.028 U				0.028 ppm	0.028 U	0.028 U
EPD-ST-WA-03-031923-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.019 U				0.019 ppm	0.019 U	0.019 U
EPD-ST-WA-04-031923-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.029 U				0.029 ppm	0.029 U	0.029 U
EPD-ST-WA-04-031923-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.019 U				0.019 ppm	0.019 U	0.019 U
EPD-ST-WA-04-031923-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.031 U				0.031 ppm	0.031 U	0.031 U
EPD-ST-WA-04-031923-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.021 U				0.021 ppm	0.021 U	0.021 U
EPD-ST-WA-05-031923-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.03 U				0.03 ppm	0.03 U	0.03 U
EPD-ST-WA-05-031923-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U				0.02 ppm	0.02 U	0.02 U
EPD-ST-WA-05-031923-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.034 U				0.034 ppm	0.034 U	0.034 U
EPD-ST-WA-05-031923-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.022 U				0.022 ppm	0.022 U	0.022 U
EPD-ST-WA-06-031923-3	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.027 U				0.027 ppm	0.027 U	0.027 U
EPD-ST-WA-06-031923-3	IHGC-P029	141-32-2	n-Butyl acrylate	0.018 U				0.018 ppm	0.018 U	0.018 U
EPD-ST-WA-06-031923-4	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.032 U				0.032 ppm	0.032 U	0.032 U
EPD-ST-WA-06-031923-4	IHGC-P029	141-32-2	n-Butyl acrylate	0.021 U				0.021 ppm	0.021 U	0.021 U