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September 7, 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 Reports  
E Palestine Site - ER  
EPA Contract No.: 68HE0519D0005  
Task Order/Task Order Line Item No.: 68HE0520F0032/0001EB201  
Document Tracking No. 1697**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting these data validation reports for 99 air samples, including 7 field blanks, collected at the E Palestine Site. The samples were collected from February 27-March 7, 2023, and were analyzed for acrylates by Eurofins Analytics, LLC of Ashland, Virginia. The final laboratory data package was received on June 26, 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) and the *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

No rejection of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

If you have any questions regarding this data validation report, please contact me via the project manager.

Sincerely,

**Diane  
MacMillan**  
Digitally signed by  
Diane MacMillan  
Date: 2023.09.07  
18:11:49 -06'00'

Chemical Engineer, P.E.

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

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**ATTACHMENT**

**DATA VALIDATION REPORTS  
EUROFINS ANALYTICS, LLC REPORT NOS. B062-222, B065-243,  
B066-139, B066-140, B066-159, B067-005**

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

<b>Site Name</b>	E Palestine Site - ER	<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1697a		
<b>Laboratory Report No.</b>	B062-222	<b>Laboratory</b>	Eurofins Analytics, LLC, Ashland VA
<b>Analyses</b>	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
<b>Samples and Matrix</b>	24 air samples, including 2 field blanks		
<b>Collection Date(s)</b>	02/27/2023-03/01/2023		
<b>Field Duplicate Pairs</b>	None		
<b>Field QC Blanks</b>	EPD-ST-FB-022823 and EPD-ST-FB-01-030123		

**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 of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

**Data completeness:**

Within Criteria	Exceedance/Notes
Y	<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 blanks 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>

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

	<p>The laboratory report included the following note: “The method reference, Rohm &amp; Haas IH9805 is referenced to the AIHA certification as IHGC-P029” and “Rohm &amp; Haas IH9805” was listed in the EDD for QC samples. The laboratory confirmed that these refer to the same laboratory SOP; therefore, the method reference for QC samples in the EDD was manually revised to “IHGC-P029” to match the method reference for field samples.</p> <p>The EDD did not include sample collection times. The laboratory revised the EDD and re-issued it to include sample collection times.</p> <p>The extraction date and time information in the laboratory EDD do not match the laboratory report or is blank. During the data validation effort, the extraction times were deleted from the validated EDD and the extraction date was corrected (as needed) to match those in the preparation log in the laboratory report.</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>
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**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	

**Field blanks:**

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

**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 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

Sample_ID	Method	CAS#	EUROFINS ANALYTICS REPORT NO. B062-222		MDL	RL	Units	VAL_Result	VAL_Qual
			Analyte	Lab_Result					
EPD-ST-DW-01-022723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.034 U			0.034 ppm	0.034 U	
EPD-ST-DW-01-022723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.023 U			0.023 ppm	0.023 U	
EPD-ST-DW-01-030123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.025 U			0.025 ppm	0.025 U	
EPD-ST-DW-01-030123-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.016 U			0.016 ppm	0.016 U	
EPD-ST-DW-01-030123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.024 U			0.024 ppm	0.024 U	
EPD-ST-DW-01-030123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.016 U			0.016 ppm	0.016 U	
EPD-ST-DW-022723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.038 U			0.038 ppm	0.038 U	
EPD-ST-DW-022723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.025 U			0.025 ppm	0.025 U	
EPD-ST-DW-022823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.033 U			0.033 ppm	0.033 U	
EPD-ST-DW-022823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.022 U			0.022 ppm	0.022 U	
EPD-ST-DW-022823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.037 U			0.037 ppm	0.037 U	
EPD-ST-DW-022823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.025 U			0.025 ppm	0.025 U	
EPD-ST-FB-01-030123	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U			2.8 ug	2.8 U	
EPD-ST-FB-01-030123	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U			1.3 ug	1.3 U	
EPD-ST-FB-022823	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U			2.8 ug	2.8 U	
EPD-ST-FB-022823	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U			1.3 ug	1.3 U	
EPD-ST-WA-01-022723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.031 U			0.031 ppm	0.031 U	
EPD-ST-WA-01-022723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.021 U			0.021 ppm	0.021 U	
EPD-ST-WA-01-022723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-WA-01-022723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-WA-01-022823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.038 U			0.038 ppm	0.038 U	
EPD-ST-WA-01-022823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.025 U			0.025 ppm	0.025 U	
EPD-ST-WA-01-022823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.035 U			0.035 ppm	0.035 U	
EPD-ST-WA-01-022823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.024 U			0.024 ppm	0.024 U	
EPD-ST-WA-01-030123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.035 U			0.035 ppm	0.035 U	
EPD-ST-WA-01-030123-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.024 U			0.024 ppm	0.024 U	
EPD-ST-WA-01-030123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.03 U			0.03 ppm	0.030 U	
EPD-ST-WA-01-030123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U			0.02 ppm	0.020 U	
EPD-ST-WA-02-022723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.034 U			0.034 ppm	0.034 U	
EPD-ST-WA-02-022723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.023 U			0.023 ppm	0.023 U	
EPD-ST-WA-02-022823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.035 U			0.035 ppm	0.035 U	
EPD-ST-WA-02-022823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.024 U			0.024 ppm	0.024 U	
EPD-ST-WA-02-022823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.038 U			0.038 ppm	0.038 U	
EPD-ST-WA-02-022823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.025 U			0.025 ppm	0.025 U	
EPD-ST-WA-02-030123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.032 U			0.032 ppm	0.032 U	
EPD-ST-WA-02-030123-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.021 U			0.021 ppm	0.021 U	
EPD-ST-WA-02-030123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.028 U			0.028 ppm	0.028 U	
EPD-ST-WA-02-030123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.019 U			0.019 ppm	0.019 U	
EPD-ST-WA-03-022723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.035 U			0.035 ppm	0.035 U	
EPD-ST-WA-03-022723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.024 U			0.024 ppm	0.024 U	
EPD-ST-WA-03-022823-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.035 U			0.035 ppm	0.035 U	
EPD-ST-WA-03-022823-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.023 U			0.023 ppm	0.023 U	
EPD-ST-WA-03-022823-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.037 U			0.037 ppm	0.037 U	
EPD-ST-WA-03-022823-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.025 U			0.025 ppm	0.025 U	
EPD-ST-WA-03-030123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-WA-03-030123-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.017 U			0.017 ppm	0.017 U	
EPD-ST-WA-03-030123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-WA-03-030123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.017 U			0.017 ppm	0.017 U	



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

<b>Site Name</b>	E Palestine Site - ER	<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1697b	<b>Laboratory</b>	Eurofins Analytics, LLC, Ashland VA
<b>Laboratory Report No.</b>	B065-243	<b>Analyses</b>	
		2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029	
<b>Samples and Matrix</b>	16 air samples, including 1 field blank		
<b>Collection Date(s)</b>	03/02/23-03/03/2023		
<b>Field Duplicate Pairs</b>	None		
<b>Field QC Blanks</b>	EPD-ST-FB-030323		

**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 of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

**Data completeness:**

Within Criteria	Exceedance/Notes
Y	<p>Level II SDG did not have the required QC forms, thus a level IV package was reviewed. One sample, EPD-ST-WA-02-030323-2, was reported with zero volume of air. A revised data package was requested to delete this sample.</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>

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

	<p>The laboratory report included the following note: “The method reference, Rohm &amp; Haas IH9805 is referenced to the AIHA certification as “IHGC-P029” and “Rohm &amp; Haas IH9805” was listed in the EDD for QC samples. The laboratory confirmed that these refer to the same laboratory SOP; therefore, the method reference for QC samples in the EDD was manually revised to “IHGC-P029” to match the method reference for field samples.</p> <p>The EDD did not include sample collection times. The laboratory revised the EDD and re-issued it to include sample collection times.</p> <p>The extraction date and time information in the laboratory EDD do not match the laboratory report or is blank. During the data validation effort, the extraction times were deleted from the validated EDD and the extraction date was corrected (as needed) to match those in the preparation log in the laboratory report.</p> <p>The sample analysis time was reported as default value 12 AM or 00:00 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>
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**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	

**Field blanks:**

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

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

**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	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

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

**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 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:**

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

**Other [None]:**

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

Sample_ID	Method	CAS#	EUROFINS ANALYTICS REPORT NO. B065-243		MDL	Units	VAL_Result	VAL_Qual
			Analyte	Lab_Result				
EPD-ST-DW-01-030223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.005 U		0.005 ppm	0.005 U	
EPD-ST-DW-01-030223-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.003 U		0.003 ppm	0.003 U	
EPD-ST-DW-01-030223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.038 U		0.038 ppm	0.038 U	
EPD-ST-DW-01-030223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U		0.026 ppm	0.026 U	
EPD-ST-DW-01-030323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U		0.039 ppm	0.039 U	
EPD-ST-DW-01-030323-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U		0.026 ppm	0.026 U	
EPD-ST-DW-01-030323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.037 U		0.037 ppm	0.037 U	
EPD-ST-DW-01-030323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.025 U		0.025 ppm	0.025 U	
EPD-ST-FB-030323	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U		2.8 ug	2.8 U	
EPD-ST-FB-030323	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U		1.3 ug	1.3 U	
EPD-ST-WA-01-030223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.03 U		0.03 ppm	0.030 U	
EPD-ST-WA-01-030223-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U		0.02 ppm	0.020 U	
EPD-ST-WA-01-030223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.029 U		0.029 ppm	0.029 U	
EPD-ST-WA-01-030223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U		0.02 ppm	0.020 U	
EPD-ST-WA-01-030323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.048 U		0.048 ppm	0.048 U	
EPD-ST-WA-01-030323-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.032 U		0.032 ppm	0.032 U	
EPD-ST-WA-01-030323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.04 U		0.04 ppm	0.040 U	
EPD-ST-WA-01-030323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U		0.026 ppm	0.026 U	
EPD-ST-WA-02-030223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.027 U		0.027 ppm	0.027 U	
EPD-ST-WA-02-030223-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.018 U		0.018 ppm	0.018 U	
EPD-ST-WA-02-030223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.028 U		0.028 ppm	0.028 U	
EPD-ST-WA-02-030223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.019 U		0.019 ppm	0.019 U	
EPD-ST-WA-02-030323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.04 U		0.04 ppm	0.040 U	
EPD-ST-WA-02-030323-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.027 U		0.027 ppm	0.027 U	
EPD-ST-WA-03-030223-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.029 U		0.029 ppm	0.029 U	
EPD-ST-WA-03-030223-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.02 U		0.02 ppm	0.020 U	
EPD-ST-WA-03-030223-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.036 U		0.036 ug	0.036 U	
EPD-ST-WA-03-030223-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.024 U		0.024 ug	0.024 U	
EPD-ST-WA-03-030323-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.037 U		0.037 ppm	0.037 U	
EPD-ST-WA-03-030323-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.025 U		0.025 ppm	0.025 U	
EPD-ST-WA-03-030323-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.04 U		0.04 ppm	0.040 U	
EPD-ST-WA-03-030323-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.027 U		0.027 ppm	0.027 U	

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

<b>Site Name</b>	E Palestine Site - ER	<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1697c		
<b>Laboratory Report No.</b>	B066-139	<b>Laboratory</b>	Eurofins Analytics, LLC, Ashland VA
<b>Analyses</b>	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
<b>Samples and Matrix</b>	14 air samples, including 1 field blank		
<b>Collection Date(s)</b>	03/06/2023		
<b>Field Duplicate Pairs</b>	None		
<b>Field QC Blanks</b>	EPD-ST-FB-030623		

**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 of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

**Data completeness:**

Within Criteria	Exceedance/Notes
Y	<p>A revised SDG was issued to remove field samples EPD-ST-WA-02-030623-2, EPD-ST-WA-04-030623-2, and EPD-ST-WA-06-030623-2, all of which reported a zero volume.</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>

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

	<p>The laboratory report included the following note: “The method reference, Rohm &amp; Haas IH9805 is referenced to the AIHA certification as “IHGC-P029” and “Rohm &amp; Haas IH9805” was listed in the EDD for QC samples. The laboratory confirmed that these refer to the same laboratory SOP; therefore, the method reference for QC samples in the EDD was manually revised to “IHGC-P029” to match the method reference for field samples.</p> <p>A unique sample ID was not provided for LCSD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. The LCSD ID (in the Samp_No and Lab_Samp_No fields) in the EDD were manually revised to match the laboratory report.</p> <p>The extraction date and time information in the laboratory EDD do not match the laboratory report or is blank. During the data validation effort, the extraction times were deleted from the validated EDD and the extraction date was corrected (as needed) to match those in the preparation log in the laboratory report.</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>
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**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	

**Field blanks:**

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

**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:**

<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 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:**

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

**Other [None]:**

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

Sample_ID	Method	CAS#	EUROFINS ANALYTICS REPORT NO. B066-139		MDL	RL	Units	VAL_Result	VAL_Qual
			Analyte	Lab_Result					
EPD-ST-DW-01-030623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.035 U			0.035 ppm	0.035 U	
EPD-ST-DW-01-030623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.024 U			0.024 ppm	0.024 U	
EPD-ST-DW-01-030623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.04 U			0.04 ug	0.04 U	
EPD-ST-DW-01-030623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.027 U			0.027 ug	0.027 U	
EPD-ST-FB-030623	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U			2.8 ug	2.8 U	
EPD-ST-FB-030623	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U			1.3 ug	1.3 U	
EPD-ST-UW-01-030623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.035 U			0.035 ppm	0.035 U	
EPD-ST-UW-01-030623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.024 U			0.024 ppm	0.024 U	
EPD-ST-UW-01-030623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-UW-01-030623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-WA-01-030623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-WA-01-030623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-WA-01-030623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.042 U			0.042 ppm	0.042 U	
EPD-ST-WA-01-030623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.028 U			0.028 ppm	0.028 U	
EPD-ST-WA-02-030623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.043 U			0.043 ppm	0.043 U	
EPD-ST-WA-02-030623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.029 U			0.029 ppm	0.029 U	
EPD-ST-WA-03-030623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.042 U			0.042 ppm	0.042 U	
EPD-ST-WA-03-030623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.028 U			0.028 ppm	0.028 U	
EPD-ST-WA-03-030623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.046 U			0.046 ppm	0.046 U	
EPD-ST-WA-03-030623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.031 U			0.031 ppm	0.031 U	
EPD-ST-WA-04-030623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.041 U			0.041 ppm	0.041 U	
EPD-ST-WA-04-030623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.027 U			0.027 ppm	0.027 U	
EPD-ST-WA-05-030623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.042 U			0.042 ppm	0.042 U	
EPD-ST-WA-05-030623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.028 U			0.028 ppm	0.028 U	
EPD-ST-WA-05-030623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.044 U			0.044 ppm	0.044 U	
EPD-ST-WA-05-030623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.03 U			0.03 ppm	0.03 U	
EPD-ST-WA-06-030623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-WA-06-030623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	

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

<b>Site Name</b>	E Palestine Site - ER	<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1697d		
<b>Laboratory Report No.</b>	B066-140	<b>Laboratory</b>	Eurofins Analytics, LLC, Ashland VA
<b>Analyses</b>	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
<b>Samples and Matrix</b>	11 air samples, including 1 field blank		
<b>Collection Date(s)</b>	03/04/2023		
<b>Field Duplicate Pairs</b>	None		
<b>Field QC Blanks</b>	EPD-ST-FB-030423		

**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 of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

**Data completeness:**

Within Criteria	Exceedance/Notes
Y	<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>

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

	<p>The laboratory report included the following note: “The method reference, Rohm &amp; Haas IH9805 is referenced to the AIHA certification as “IHGC-P029” and “Rohm &amp; Haas IH9805” was listed in the EDD for QC samples. The laboratory confirmed that these refer to the same laboratory SOP; therefore, the method reference for QC samples in the EDD was manually revised to “IHGC-P029” to match the method reference for field samples.</p> <p>The extraction date and time information in the laboratory EDD do not match the laboratory report or is blank. During the data validation effort, the extraction times were deleted from the validated EDD and the extraction date was corrected (as needed) to match those in the preparation log in the laboratory report.</p> <p>The sample analysis time was reported as default value 12 AM or 00:00 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>
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**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	

**Field blanks:**

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

**Surrogates and labeled compounds:**

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

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

**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	

**LCSs/LCSDs:**

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

**Sample dilutions:**

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

**Re-extraction and reanalysis:**

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

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

**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

Sample_ID	Method	CAS#	EUROFINS ANALYTICS REPORT NO. B066-140		MDL	RL	Units	VAL_Result	VAL_Qual
			Analyte	Lab_Result					
EPD-ST-DW-01-030423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.034 U			0.034 ppm	0.034 U	
EPD-ST-DW-01-030423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.023 U			0.023 ppm	0.023 U	
EPD-ST-DW-01-030423-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.04 U			0.04 ppm	0.040 U	
EPD-ST-DW-01-030423-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-FB-030423	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U			2.8 ug	2.8 U	
EPD-ST-FB-030423	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U			1.3 ug	1.3 U	
EPD-ST-UW-01-030423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.034 U			0.034 ppm	0.034 U	
EPD-ST-UW-01-030423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.023 U			0.023 ppm	0.023 U	
EPD-ST-UW-01-030423-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.04 U			0.04 ppm	0.040 U	
EPD-ST-UW-01-030423-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.027 U			0.027 ppm	0.027 U	
EPD-ST-WA-01-030423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-WA-01-030423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-WA-01-030423-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.042 U			0.042 ppm	0.042 U	
EPD-ST-WA-01-030423-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.028 U			0.028 ppm	0.028 U	
EPD-ST-WA-02-030423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.036 U			0.036 ppm	0.036 U	
EPD-ST-WA-02-030423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.024 U			0.024 ppm	0.024 U	
EPD-ST-WA-02-030423-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-WA-02-030423-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-WA-03-030423-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.011 U			0.011 ppm	0.011 U	
EPD-ST-WA-03-030423-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.007 U			0.007 ppm	0.007 U	
EPD-ST-WA-03-030423-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-WA-03-030423-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	

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

<b>Site Name</b>	E Palestine Site - ER	<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1697e		
<b>Laboratory Report No.</b>	B066-159	<b>Laboratory</b>	Eurofins Analytics, LLC, Ashland VA
<b>Analyses</b>	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
<b>Samples and Matrix</b>	17 air samples, including 1 field blank		
<b>Collection Date(s)</b>	03/05/2023		
<b>Field Duplicate Pairs</b>	None		
<b>Field QC Blanks</b>	EPD-ST-FB-030523		

**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 of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

**Data completeness:**

Within Criteria	Exceedance/Notes
Y	<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” and “Rohm &amp; Haas IH9805” was listed in the EDD for QC samples. The laboratory confirmed that these refer to the same laboratory SOP; therefore, the method reference for QC samples in the EDD was manually revised to “IHGC-P029” to match the method reference for field samples.</p>

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

	<p>The extraction date and time information in the laboratory EDD do not match the laboratory report or is blank. During the data validation effort, the extraction times were deleted from the validated EDD and the extraction date was corrected (as needed) to match those in the preparation log in the laboratory report.</p> <p>The sample analysis time was reported as default value 12 AM or 00:00 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> <p>Laboratory report and EDD were re-issued to add in missing units that had been omitted on four samples.</p> <p>The EDD was revised again to correct quantitation limit and reporting limit values for n-butyl acrylate in sample EPD-ST-WA-01-030523-2; they were initially reported with what appears to be the appropriate value for ug/sorbent tube units; value was changed to appropriate value for ppm units to match the rest of the samples.</p>
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**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 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	

**LCSs/LCSDs:**

Within Criteria	Exceedance/Notes
Y	

**Sample dilutions:**

Within Criteria	Exceedance/Notes
NA	

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

**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 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:**

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

**Other [None]:**

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

Sample_ID	Method	CAS#	EUROFINS ANALYTICS REPORT NO. B066-159		MDL	RL	Units	VAL_Result	VAL_Qual
			Analyte	Lab_Result					
EPD-ST-DW-01-030523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-DW-01-030523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-DW-01-030523-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-DW-01-030523-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-FB-030523	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U			2.8 ug	2.8 U	
EPD-ST-FB-030523	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U			1.3 ug	1.3 U	
EPD-ST-UW-01-030523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.041 U			0.041 ppm	0.041 U	
EPD-ST-UW-01-030523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.028 U			0.028 ppm	0.028 U	
EPD-ST-UW-01-030523-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.04 U			0.04 ppm	0.04 U	
EPD-ST-UW-01-030523-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-WA-01-030523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-WA-01-030523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-WA-01-030523-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-WA-01-030523-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.048			0.048 ppm	0.048	
EPD-ST-WA-02-030523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-WA-02-030523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-WA-02-030523-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.038 U			0.038 ppm	0.038 U	
EPD-ST-WA-02-030523-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.025 U			0.025 ppm	0.025 U	
EPD-ST-WA-03-030523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.038 U			0.038 ppm	0.038 U	
EPD-ST-WA-03-030523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.025 U			0.025 ppm	0.025 U	
EPD-ST-WA-03-030523-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.036 U			0.036 ppm	0.036 U	
EPD-ST-WA-03-030523-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.024 U			0.024 ppm	0.024 U	
EPD-ST-WA-04-030523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.042 U			0.042 ppm	0.042 U	
EPD-ST-WA-04-030523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.028 U			0.028 ppm	0.028 U	
EPD-ST-WA-04-030523-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-WA-04-030523-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-WA-05-030523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.041 U			0.041 ppm	0.041 U	
EPD-ST-WA-05-030523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.028 U			0.028 ppm	0.028 U	
EPD-ST-WA-05-030523-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.037 U			0.037 ppm	0.037 U	
EPD-ST-WA-05-030523-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.025 U			0.025 ppm	0.025 U	
EPD-ST-WA-06-030523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.04 U			0.04 ppm	0.04 U	
EPD-ST-WA-06-030523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.027 U			0.027 ppm	0.027 U	
EPD-ST-WA-06-030523-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-WA-06-030523-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	



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

<b>Site Name</b>	E Palestine Site - ER	<b>TO/TOLIN No.</b>	68HE0520F0032/0001EB201
<b>Document Tracking No.</b>	1697f		
<b>Laboratory Report No.</b>	B067-005	<b>Laboratory</b>	Eurofins Analytics, LLC, Ashland VA
<b>Analyses</b>	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
<b>Samples and Matrix</b>	17 air samples, including 1 field blank		
<b>Collection Date(s)</b>	03/07/2023		
<b>Field Duplicate Pairs</b>	None		
<b>Field QC Blanks</b>	EPD-ST-FB-030723		

**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 of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

**Data completeness:**

Within Criteria	Exceedance/Notes
Y	<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>

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

	<p>The laboratory report included the following note: “The method reference, Rohm &amp; Haas IH9805 is referenced to the AIHA certification as “IHGC-P029” and “Rohm &amp; Haas IH9805” was listed in the EDD for QC samples. The laboratory confirmed that these refer to the same laboratory SOP; therefore, the method reference for QC samples in the EDD was manually revised to “IHGC-P029” to match the method reference for field samples.</p> <p>The extraction date and time information in the laboratory EDD do not match the laboratory report or is blank. During the data validation effort, the extraction times were deleted from the validated EDD and the extraction date was corrected (as needed) to match those in the preparation log in the laboratory report.</p> <p>The sample analysis time was reported as default value 12 AM or 00:00 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>
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**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	

**Field blanks:**

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

**Surrogates and labeled compounds:**

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

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

**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	

**LCSs/LCSDs:**

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

**Sample dilutions:**

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

**Re-extraction and reanalysis:**

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

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

**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

Sample_ID	Method	CAS#	EUROFINS ANALYTICS REPORT NO. B067-005		MDL	RL	Units	VAL_Result	VAL_Qual
			Analyte	Lab_Result					
EPD-ST-DW-01-030723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-DW-01-030723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-DW-01-030723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.046 U			0.046 ppm	0.046 U	
EPD-ST-DW-01-030723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.031 U			0.031 ppm	0.031 U	
EPD-ST-FB-030723	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U			2.8 ug	2.8 U	
EPD-ST-FB-030723	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U			1.3 ug	1.3 U	
EPD-ST-UW-01-030723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.032 U			0.032 ppm	0.032 U	
EPD-ST-UW-01-030723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.022 U			0.022 ppm	0.022 U	
EPD-ST-UW-01-030723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.036 U			0.036 ppm	0.036 U	
EPD-ST-UW-01-030723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.024 U			0.024 ppm	0.024 U	
EPD-ST-WA-01-030723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.036 U			0.036 ppm	0.036 U	
EPD-ST-WA-01-030723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.024 U			0.024 ppm	0.024 U	
EPD-ST-WA-01-030723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.041 U			0.041 ppm	0.041 U	
EPD-ST-WA-01-030723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.027 U			0.027 ppm	0.027 U	
EPD-ST-WA-02-030723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.042 U			0.042 ppm	0.042 U	
EPD-ST-WA-02-030723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.028 U			0.028 ppm	0.028 U	
EPD-ST-WA-02-030723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.05 U			0.05 ppm	0.050 U	
EPD-ST-WA-02-030723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.033 U			0.033 ppm	0.033 U	
EPD-ST-WA-03-030723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.034 U			0.034 ppm	0.034 U	
EPD-ST-WA-03-030723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.023 U			0.023 ppm	0.023 U	
EPD-ST-WA-03-030723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.04 U			0.04 ppm	0.040 U	
EPD-ST-WA-03-030723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.027 U			0.027 ppm	0.027 U	
EPD-ST-WA-04-030723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.041 U			0.041 ppm	0.041 U	
EPD-ST-WA-04-030723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.027 U			0.027 ppm	0.027 U	
EPD-ST-WA-04-030723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.039 U			0.039 ppm	0.039 U	
EPD-ST-WA-04-030723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.026 U			0.026 ppm	0.026 U	
EPD-ST-WA-05-030723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.045 U			0.045 ppm	0.045 U	
EPD-ST-WA-05-030723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.03 U			0.03 ppm	0.030 U	
EPD-ST-WA-05-030723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.046 U			0.046 ppm	0.046 U	
EPD-ST-WA-05-030723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.031 U			0.031 ppm	0.031 U	
EPD-ST-WA-06-030723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.033 U			0.033 ppm	0.033 U	
EPD-ST-WA-06-030723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.022 U			0.022 ppm	0.022 U	
EPD-ST-WA-06-030723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.042 U			0.042 ppm	0.042 U	
EPD-ST-WA-06-030723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.028 U			0.028 ppm	0.028 U	