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July 18, 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. 1922**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting these data validation reports for fifty seven air samples including three field duplicates and five field blanks were collected at the E Palestine Site. The samples were collected on April 19 and 20, 2023, and were analyzed for acrylates (n-butyl-acrylate and 2-ethylhexyl-acrylate, or only n-butyl-acrylate) by Eurofins Analytics, LLC at their Ashland, Virginia laboratory. The final laboratory data packages were received on July 13, 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 4* (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 or qualification of results was required for this data package. The results may be used as reported by the laboratory.

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

Sincerely,

Shanna M Vasser Digitally signed by Shanna M Vasser
Date: 2023.07.18 17:56:24 -04'00'

Civil Engineer

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.
B111-168, B114-137, B114-138, AND B114-139**

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1922a	Laboratory	Eurofins Analytics, LLC, Ashland, VA
Laboratory Report No.	B111-168	Analyses	
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate analysis by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	Nine air samples, including one field blank		
Collection Date(s)	04/19/2023		
Field Duplicate Pairs	None		
Field QC Blanks	EPD-ST-FB-041923-2		

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 4* (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 *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 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/m3), 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 & Haas IH9805 is referenced to the AIHA certification as IHGC-P029.” The method is referred to by the abbreviation “Rohm & Haas IH9805” or “IHGC-P029.”</p> <p>A unique sample ID 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>

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

Data completeness (continued):

Within Criteria	Exceedance/Notes
Y	<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 a default value of 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>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	The report was amended to add a corrected chain of custody.

Method blanks:

Within Criteria	Exceedance/Notes
Y	None

Field blanks:

Within Criteria	Exceedance/Notes
Y	None

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
NA	None

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

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	None.

LCs/LCSDs:

Within Criteria	Exceedance/Notes
Y	None.

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
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 [specify]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
 EUROFINS ANALYTICS, LLC REPORT NO. B111-168

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-C-041923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U				0.015 ppm	0.015 U	
EPD-ST-8H-DW-C-041923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U				0.01 ppm	0.01 U	
EPD-ST-8H-UW-G-041923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U				0.015 ppm	0.015 U	
EPD-ST-8H-UW-G-041923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U				0.01 ppm	0.01 U	
EPD-ST-8H-WA-01-041923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U				0.015 ppm	0.015 U	
EPD-ST-8H-WA-01-041923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U				0.01 ppm	0.01 U	
EPD-ST-8H-WA-02-041923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U				0.015 ppm	0.015 U	
EPD-ST-8H-WA-02-041923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U				0.01 ppm	0.01 U	
EPD-ST-8H-WA-03-041923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U				0.015 ppm	0.015 U	
EPD-ST-8H-WA-03-041923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U				0.01 ppm	0.01 U	
EPD-ST-8H-WA-04-041923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U				0.015 ppm	0.015 U	
EPD-ST-8H-WA-04-041923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U				0.01 ppm	0.01 U	
EPD-ST-8H-WA-05-041923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U				0.015 ppm	0.015 U	
EPD-ST-8H-WA-05-041923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U				0.01 ppm	0.01 U	
EPD-ST-8H-WA-06-041923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U				0.015 ppm	0.015 U	
EPD-ST-8H-WA-06-041923-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U				0.01 ppm	0.01 U	
EPD-ST-FB-041923-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U				2.8 ug	2.8 U	
EPD-ST-FB-041923-2	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U				1.3 ug	1.3 U	

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1922b	Laboratory	Eurofins Analytics, LLC, Ashland, VA
Laboratory Report No.	B114-137		
Analyses	n-Butyl acrylate analysis by NIOSH Method 1450M		
Samples and Matrix	Twenty nine air samples, including two field duplicate pairs and two field blanks		
Collection Date(s)	04/20/2023		
Field Duplicate Pairs	EPD-PB-CM-066-042023-1/EPD-PB-CM-06-042023-1		
	EPD-PB-WA-033-042023-1/EPD-PB-WA-03-042023-1		
Field QC Blanks	EPD-PB-MB-01-042023-1		
	EPD-PB-FB-01-042023-1		

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan East Palestine Train Derailment Site East Palestine, Columbiana County, Ohio, EPA Region 5, Revision 4* (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 *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 completeness:

Within Criteria	Exceedance/Notes
Y	Level II SDG did not have required QC forms thus a level IV package was reviewed. 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/m3), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).

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

Data completeness (continued):

Within Criteria	Exceedance/Notes
Y	<p>A unique sample ID 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 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 a default value of 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>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	None

Method blanks:

Within Criteria	Exceedance/Notes
N	Method blank sample LMB IHG230424A had detections of n-butyl acrylate below the reporting limit. Associated sample results were non-detect for this analyte, therefore no qualifications were applied.

Field blanks:

Within Criteria	Exceedance/Notes
Y	None

**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
Y	None

LCSS/LCSDs:

Within Criteria	Exceedance/Notes
N	The LCS and LCSD recovered n-butyl acrylate above QC limits. All associated sample results were nondetect, therefore no qualifications were applied.

Sample dilutions:

Within Criteria	Exceedance/Notes
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 [specify]:

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.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
 EUROFINS ANALYTICS, LLC REPORT NO. B114-137

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-BKBA-02-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009 U				0.009 ppm	0.009 U	
EPD-PB-CM-06-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-CM-066-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-CM-07-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009 U				0.009 ppm	0.009 U	
EPD-PB-CM-08-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009 U				0.009 ppm	0.009 U	
EPD-PB-CM-09-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-CM-10-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-CM-11-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-CM-12-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-CM-14-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-DW-C-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0089 U				0.0089 ppm	0.0089 U	
EPD-PB-FB-01-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2 U				2 ug	2 U	
EPD-PB-MB-01-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2 U				2 ug	2 U	
EPD-PB-OD-01-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009 U				0.009 ppm	0.009 U	
EPD-PB-OD-02-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009 U				0.009 ppm	0.009 U	
EPD-PB-OD-03-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-OD-04-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-OD-05-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-OD-06-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-OD-07-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-UW-G-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0089 U				0.0089 ppm	0.0089 U	
EPD-PB-WA-01-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-WA-02-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-WA-03-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009 U				0.009 ppm	0.009 U	
EPD-PB-WA-033-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009 U				0.009 ppm	0.009 U	
EPD-PB-WA-04-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-WA-05-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 U	
EPD-PB-WA-06-042023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U				0.0091 ppm	0.0091 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.	1922c	Laboratory	Eurofins Analytics, LLC, Ashland, VA
Laboratory Report No.	B114-138	Analyses	
Field QC Blanks	EPD-ST-FB-042023-1	2-Ethylhexyl acrylate and n-butyl acrylate analysis by laboratory standard operating procedure (SOP) IHGC-P029	
Samples and Matrix	Nine air samples, including one field blank	Samples and Matrix	
Collection Date(s)	04/20/2023	Samples and Matrix	
Field Duplicate Pairs	None	Samples and Matrix	
Field QC Blanks	EPD-ST-FB-042023-1	Samples and Matrix	

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 4* (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 *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>Report amended to correct air volume for sample EPD-ST-8H-WA-06-042023-1 per client request. A revised chain of custody (COC) was issued on 4/25/23 to correct the Total Time and volume values.</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/m3), and parts per million (ppm) (volume) in the laboratory report and only ppm in the electronic data deliverable (EDD).</p> <p>A unique sample ID 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>



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

Data completeness (continued):

Within Criteria	Exceedance/Notes
Y	<p>The laboratory report included the following note: “The method reference, Rohm & Haas IH9805 is referenced to the AIHA certification as IHGC-P029.” The method is referred to by the abbreviation “Rohm & Haas IH9805” or “IHGC-P029.”</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 a default value of 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>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	None

Method blanks:

Within Criteria	Exceedance/Notes
Y	None

Field blanks:

Within Criteria	Exceedance/Notes
Y	None

**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
Y	None

LCs/LCSDs:

Within Criteria	Exceedance/Notes
N	Batch IHG230424C: The LCS and LCSD recoveries for n-butyl acrylate were below QC limit. N-Butyl acrylate results in all samples were qualified as estimated (flagged UJ).

Sample dilutions:

Within Criteria	Exceedance/Notes
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 [Continuing Calibration]:

Within Criteria	Exceedance/Notes
N	Continuing calibration verification recovery was below acceptance criteria for n-butyl acrylate. All n-butyl acrylate results were qualified as estimated with possible low bias (flagged UJ).

**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, LLC REPORT NO. B114-138

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-C-042023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U		0.015 ppm	ppm	0.015 U	U
EPD-ST-8H-DW-C-042023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U		0.01 ppm	ppm	0.01 UJ	UJ
EPD-ST-8H-UW-G-042023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U		0.015 ppm	ppm	0.015 U	U
EPD-ST-8H-UW-G-042023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U		0.01 ppm	ppm	0.01 UJ	UJ
EPD-ST-8H-WA-01-042023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014 U	U		0.014 ppm	ppm	0.014 U	U
EPD-ST-8H-WA-01-042023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U		0.01 ppm	ppm	0.01 UJ	UJ
EPD-ST-8H-WA-02-042023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U		0.015 ppm	ppm	0.015 U	U
EPD-ST-8H-WA-02-042023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U		0.01 ppm	ppm	0.01 UJ	UJ
EPD-ST-8H-WA-03-042023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U		0.015 ppm	ppm	0.015 U	U
EPD-ST-8H-WA-03-042023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U		0.01 ppm	ppm	0.01 UJ	UJ
EPD-ST-8H-WA-04-042023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U		0.015 ppm	ppm	0.015 U	U
EPD-ST-8H-WA-04-042023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U		0.01 ppm	ppm	0.01 UJ	UJ
EPD-ST-8H-WA-05-042023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014 U	U		0.014 ppm	ppm	0.014 U	U
EPD-ST-8H-WA-05-042023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009 U	U		0.009 ppm	ppm	0.009 UJ	UJ
EPD-ST-8H-WA-06-042023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U		0.015 ppm	ppm	0.015 U	U
EPD-ST-8H-WA-06-042023-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U		0.01 ppm	ppm	0.01 UJ	UJ
EPD-ST-FB-042023-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U	U		2.8 ug	ug	2.8 U	U
EPD-ST-FB-042023-1	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U	U		1.3 ug	ug	1.3 UJ	UJ

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1922d	Laboratory	Eurofins Analytics, LLC, Ashland, VA
Laboratory Report No.	B114-139	Analyses	
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate analysis by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	Ten air samples, including one field duplicate pair and one field blank		
Collection Date(s)	04/20/2023		
Field Duplicate Pairs	EPD-ST-8H-WA-05-042023-2/ EPD-ST-8H-WA-55-042023-2		
Field QC Blanks	EPD-ST-FB-042023-2		

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 4* (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 *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/m3), 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 & Haas IH9805 is referenced to the AIHA certification as IHGC-P029.” The method is referred to by the abbreviation “Rohm & Haas IH9805” or “IHGC-P029.”</p> <p>A unique sample ID 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>

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

Data completeness (continued):

Within Criteria	Exceedance/Notes
Y	<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 a default value of 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>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	None

Method blanks:

Within Criteria	Exceedance/Notes
Y	None

Field blanks:

Within Criteria	Exceedance/Notes
Y	None

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
NA	

**DATA VALIDATION CHECKLIST – STAGE 2A
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MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	None

LCs/LCSDs:

Within Criteria	Exceedance/Notes
N	<p>The LCS and LCSD recoveries for n-butyl acrylate were below QC limit. All n-butyl acrylate results were qualified as estimated with possible low bias (flagged UJ).</p> <p>The laboratory report and the EDD have one or more minor discrepancies in the LCS/LCSD results (+/- 1 ug) and/or percent recoveries (+/- 1%) that were verified with the laboratory to be a significant figures issue. No qualification was applied.</p>

Sample dilutions:

Within Criteria	Exceedance/Notes
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 [Continuing Calibration]:

Within Criteria	Exceedance/Notes
N	Continuing calibration verification recovery was below acceptance criteria for n-butyl acrylate. All n-butyl acrylate results were qualified as estimated with possible low bias (flagged UJ).

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

Overall Qualifications:

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
 EUROFINS ANALYTICS, LLC REPORT NO. B114-139

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-A-042023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-DW-A-042023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.010	UJ
EPD-ST-8H-UW-E-042023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-UW-E-042023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.010	UJ
EPD-ST-8H-WA-01-042023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-01-042023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.010	UJ
EPD-ST-8H-WA-02-042023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-02-042023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.010	UJ
EPD-ST-8H-WA-03-042023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-03-042023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.010	UJ
EPD-ST-8H-WA-04-042023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	U
EPD-ST-8H-WA-04-042023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.0090	UJ
EPD-ST-8H-WA-05-042023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-05-042023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.010	UJ
EPD-ST-8H-WA-06-042023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-06-042023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.010	UJ
EPD-ST-8H-WA-55-042023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U		0.016	ppm	0.016	U
EPD-ST-8H-WA-55-042023-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U		0.011	ppm	0.011	UJ
EPD-ST-FB-042023-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U		2.8	ug	2.8	U
EPD-ST-FB-042023-2	IHGC-P029	141-32-2	n-Butyl acrylate	1.3	U		1.3	ug	1.3	UJ