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October 24, 2023

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

**Subject: Data Validation Report
E Palestine Site – ER
EPA Contract No.: 68HE0519D0005
Task Order/Task Order Line Item No.: 68HE0520F0032 / 0001EB201
Document Tracking No. 2081**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting this data validation report for 80 air samples (including 6 field duplicate samples and 8 blank samples) collected at the E Palestine site. The samples were collected on August 7, 2023, and were analyzed for acrylates by Eurofins Analytics, LLC. The final laboratory data package was received on August 21, 2023.

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

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

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

Sincerely,

Kayla Phye Digitally signed by Kayla Phye
Date: 2023.10.24 12:32:07
-06'00'

Environmental Chemist

Enclosure

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

ATTACHMENTS

**DATA VALIDATION REPORT
EUROFINS ANALYTICS, LLC REPORT NOS.
B221-001, B221-002, B221-003, AND B221-004**

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

Site Name	E Palestine Site – ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	2081a	Laboratory	Eurofins Analytics, LLC – Ashland, VA
Laboratory Report No.	B221-001	Analyses	
Analyses	n-Butyl acrylate by National Institute for Occupational Safety and Health (NIOSH) Method 1450M		
Samples and Matrix	32 air samples, including 3 field duplicate samples, 2 field blank samples, and 2 media blank samples		
Collection Date(s)	08/07/2023		
Field Duplicate Pairs	EPD-PB-CM-14-080723-2/EPD-PB-CM-144-080723-2 EPD-PB-OD-02-080723-2/EPD-PB-OD-022-080723-2 EPD-PB-OD-04-080723-2/EPD-PB-OD-044-080723-2		
Field QC Blanks	EPD-PB-FB-02-080723-2, EPD-PB-FB-03-080723-2, EPD-PB-MB-02-080723-2, and EPD-PB-MB-03-080723-2		

INTRODUCTION

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

OVERALL EVALUATION

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

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

Data completeness:

Within Criteria	Exceedance/Notes
N	<p>The results for the field and media blank samples were reported in units of micrograms (µg) while the other field sample results were reported in units of µg, milligrams per cubic meter (mg/m3), and parts per million (ppm) (volume) in the laboratory report and only in units of ppm in the laboratory electronic data deliverable (EDD).</p> <p>The site-specific QAPP specifies analysis of acrylates in air by Eurofins Analytics, LLC standard operating procedure (SOP) IHGC-001-v.22-3. The laboratory confirmed that NIOSH Method 1450M, which is mentioned in the laboratory deliverables, is equivalent to SOP IHGC-001-v.22-3; therefore, these method references may be used interchangeably.</p> <p>The sample analysis time is reported as a default value of 00:00 hours for the laboratory control spike duplicate (LCSD) in the analysis date field of the laboratory EDD. Since the sample analysis time for the LCSD is not required for the validated EDD, this value was not manually revised.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	<p>Laboratory method blanks (LMB IHG230809A/B) and laboratory reagent blanks (LRB IHG230809A/B) were reported as nondetect (flagged U) with a result of 0 µg in the laboratory EDD rather than at the reporting limit (RL). The laboratory was contacted on August 28, 2023, and resolved the LMB and LRB results in future laboratory EDDs. No qualifications were applied because all n-butyl acrylate sample results were nondetect.</p>

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

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
NA	

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	

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

LCs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Method detection limits (MDL) were not reported. Nondetect sample results are reported as less than the RL in the laboratory report and at the RL (flagged U) in the validated EDD and attached analytical results summary.

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.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
 EUROFINS ANALYTICS, LLC REPORT NO. B221-001

Sample ID	Method	CAS No.	Analyte	Lab Result	Lab Qual	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-BKBA-02-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-06-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-07-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-08-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-09-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-10-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-11-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-12-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-14-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-144-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-DW-C-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-FB-02-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-FB-03-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-MB-02-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-MB-03-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-OD-01-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-02-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-022-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-03-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-04-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-044-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-05-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-06-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-07-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-UW-G-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-01-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-02-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-03-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-04-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-05-080723-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-06-080723-2	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.	2081b	Laboratory	Eurofins Analytics, LLC – Ashland, VA
Laboratory Report No.	B221-002	Laboratory standard operating procedure (SOP) IHGC-P029	
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	Nine air samples, including one field blank sample		
Collection Date(s)	08/07/2023		
Field Duplicate Pairs	None		
Field QC Blanks	EPD-ST-FB-080723-1		

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, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), and the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

OVERALL EVALUATION

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

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

Data completeness:

Within Criteria	Exceedance/Notes
N	<p>The results for the field blank sample were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligrams per cubic meter (mg/m3), and parts per million (ppm) (volume) in the laboratory report and only in units of ppm in the laboratory electronic data deliverable (EDD).</p> <p>Rohm & Haas IH9805 is cited in the AIHA certification as “IHGC-P029” and may be cited by the abbreviation “Rohm & Haas IH9805” or “IHGC-P029” interchangeably throughout the laboratory report.</p> <p>The sample analysis time is reported as a default value of 00:00 hours for the laboratory control spike duplicate (LCSD) in the analysis date field of the laboratory EDD. Since the sample analysis time for the LCSD is not required for the validated EDD, this value was not manually revised.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	<p>Laboratory method blank (LMB) IHG230809E and laboratory reagent blank (LRB) IHG230809E were reported as nondetect (flagged U) with a result of 0 µg in the laboratory EDD rather than at the reporting limit (RL). The laboratory was contacted on August 28, 2023, and resolved the LMB and LRB results in future laboratory EDDs. No qualifications were applied because all sample results were nondetect.</p>

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:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Method detection limits (MDL) were not reported. Nondetect sample results are reported as less than the RL in the laboratory report and at the RL (flagged U) in the validated EDD and attached analytical results summary.

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.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
 EUROFINS ANALYTICS, LLC REPORT NO. B221-002

Sample ID	Method	CAS No.	Analyte	Lab Result	Lab Qual	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-A-080723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-DW-A-080723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-UW-E-080723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-UW-E-080723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-01-080723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-WA-01-080723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-02-080723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-WA-02-080723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-03-080723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-WA-03-080723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-04-080723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014 U	U	0.014	ppm	0.014 U	U
EPD-ST-8H-WA-04-080723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-05-080723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-WA-05-080723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-06-080723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-WA-06-080723-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-FB-080723-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U	U	2.8	ug	2.8 U	U
EPD-ST-FB-080723-1	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U	U	1.3	ug	1.3 U	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.	2081c	Laboratory	Eurofins Analytics, LLC – Ashland, VA
Laboratory Report No.	B221-003	Laboratory standard operating procedure (SOP) IHGC-P029	
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	10 air samples, including 1 field duplicate sample and 1 field blank sample		
Collection Date(s)	08/07/2023		
Field Duplicate Pairs	EPD-ST-8H-WA-04-080723-2/EPD-ST-8H-WA-44-080723-2		
Field QC Blanks	EPD-ST-FB-080723-2		

INTRODUCTION

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

OVERALL EVALUATION

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

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

Data completeness:

Within Criteria	Exceedance/Notes
N	<p>The results for the field blank sample were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligrams per cubic meter (mg/m3), and parts per million (ppm) (volume) in the laboratory report and only in units of ppm in the laboratory electronic data deliverable (EDD).</p> <p>Rohm & Haas IH9805 is cited in the AIHA certification as “IHGC-P029” and may be cited by the abbreviation “Rohm & Haas IH9805” or “IHGC-P029” interchangeably throughout the laboratory report.</p> <p>The sample analysis time is reported as a default value of 00:00 hours for the laboratory control spike duplicate (LCSD) in the analysis date field of the laboratory EDD. Since the sample analysis time for the LCSD is not required for the validated EDD, this value was not manually revised.</p> <p>Sample EPD-ST-8H-WA-02-080723-2 had an incorrect volume listed on the original chain-of-custody (COC) relinquished to the laboratory on August 9, 2023. A revised COC was delivered to the laboratory on August 14, 2023, correcting this discrepancy. Both COCs are included in the laboratory report.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	<p>Results for the laboratory method blank (LMB IHG230809F) and laboratory reagent blank (LRB IHG230809F) were reported as nondetect (flagged U) with a result of 0 µg in the laboratory EDD rather than at the reporting limit (RL). The laboratory was contacted on August 28, 2023, and resolved the LMB and LRB results in future laboratory EDDs. No qualifications were applied because all sample results were nondetect.</p>

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

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
NA	

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	

LCSS/LCSDs:

Within Criteria	Exceedance/Notes
Y	

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

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Method detection limits (MDL) were not reported. Nondetect sample results are reported as less than the RL in the laboratory report and at the RL (flagged U) in the validated EDD and attached analytical results summary.

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.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
 EUROFINS ANALYTICS, LLC REPORT NO. B221-003

Sample ID	Method	CAS No.	Analyte	Lab Result	Lab Qual	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-C-080723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-DW-C-080723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-UW-G-080723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-UW-G-080723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-01-080723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-WA-01-080723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-02-080723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-WA-02-080723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-03-080723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-WA-03-080723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-04-080723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-WA-04-080723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-05-080723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-WA-05-080723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-06-080723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-WA-06-080723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-8H-WA-44-080723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015 U	U	0.015	ppm	0.015 U	U
EPD-ST-8H-WA-44-080723-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01 U	U	0.01	ppm	0.01 U	U
EPD-ST-FB-080723-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8 U	U	2.8	ug	2.8 U	U
EPD-ST-FB-080723-2	IHGC-P029	141-32-2	n-Butyl acrylate	1.3 U	U	1.3	ug	1.3 U	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.	2081d	Laboratory	Eurofins Analytics, LLC – Ashland, VA
Laboratory Report No.	B221-004	Analyses	
Analyses	n-Butyl acrylate by National Institute for Occupational Safety and Health (NIOSH) Method 1450M		
Samples and Matrix	29 air samples, including 2 field duplicate samples, 1 field blank sample, and 1 media blank sample		
Collection Date(s)	08/07/2023		
Field Duplicate Pairs	EPD-PB-CM-10-080723-1/EPD-PB-CM-100-080723-1 EPD-PB-CM-11-080723-1/EPD-PB-CM-111-080723-1		
Field QC Blanks	EPD-ST-FB-01-080723-1 and EPD-ST-MB-01-080723-1		

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, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), and the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

OVERALL EVALUATION

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

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

Data completeness:

Within Criteria	Exceedance/Notes
N	<p>The results for the field blank sample and media blank sample were reported in units of micrograms (µg) while the other field sample results were reported in units of µg, milligrams per cubic meter (mg/m³), and parts per million (ppm) (volume) in the laboratory report and only in units of ppm in the laboratory electronic data deliverable (EDD).</p> <p>The site-specific QAPP specifies analysis of acrylates in air by Eurofins Analytics, LLC standard operating procedure (SOP) IHGC-001-v.22-3. The laboratory confirmed that NIOSH Method 1450M, which is mentioned in the laboratory deliverables, is equivalent to SOP IHGC-001-v.22-3; therefore, these method references may be used interchangeably.</p> <p>The sample analysis time is reported as a default value of 00:00 hours for both laboratory control spike duplicates (LCSD) in the analysis date field of the laboratory EDD. Since the sample analysis time for the LCSD is not required for the validated EDD, these values were not manually revised.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	<p>Laboratory media blanks (LMB IHG230809C/D) and laboratory reagent blanks (LRB IHG230809C/D) were reported as nondetect (flagged U) with a result of 0 µg in the laboratory EDD rather than at the reporting limit (RL). The laboratory was contacted on August 28, 2023, and resolved the LMB and LRB results in future laboratory EDDs. No qualifications were applied because all n-butyl acrylate sample results were nondetect.</p>

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

Field blanks:

Within Criteria	Exceedance/Notes
N	Per the site-specific QAPP, 1 field blank and 1 media blank sample is required per lot per 20 samples collected. For the collection of these 29 samples, there should be 2 field blank and 2 media blank samples; however, only 1 field blank and 1 media blank sample were collected with this sample group. Although no qualifications were applied, the data user should note this deviation.

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	

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

LCs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Method detection limits (MDL) were not reported. Nondetect sample results are reported as less than the RL in the laboratory report and at the RL (flagged U) in the validated EDD and attached analytical results summary.

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.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
 EUROFINS ANALYTICS, LLC REPORT NO. B221-004

Sample ID	Method	CAS No.	Analyte	Lab Result	Lab Qual RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-BKBA-02-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-CM-06-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-CM-07-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-CM-08-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-CM-09-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-CM-10-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-CM-11-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-CM-12-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-CM-14-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-DW-A-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009 U	0.009	ppm	0.009	U
EPD-PB-FB-01-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2 U	2	ug	2	U
EPD-PB-MB-01-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2 U	2	ug	2	U
EPD-PB-OD-01-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-OD-02-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-OD-03-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-OD-04-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-OD-05-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-OD-06-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-OD-07-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-UW-E-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-WA-01-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-WA-02-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-WA-03-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-WA-04-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-WA-05-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U
EPD-PB-WA-06-080723-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	0.0091	ppm	0.0091	U