



We are in the process of ensuring this document is accessible to all audiences. If you need assistance accessing this document, or any material on the EPA East Palestine, Ohio emergency response web pages, please contact the Region 5 Public Information Officer on-call at: R5_EastPalestine@epa.gov

July 6, 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. 1909**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting this data validation report for seventy-eight air samples including five field duplicate samples and nine field blank samples collected at the E Palestine ER. The samples were collected on April 8, 9, and 11, 2023, and were analyzed for both 2-Ethylhexyl acrylate and n-Butyl acrylate or only n-Butyl acrylate at the Eurofins Air Toxics laboratory in Ashland Virginia. The final laboratory data packages were received between April 17 and June 5, 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 feel free to contact me.

Sincerely,

Tom
Hahne
Digitally signed
by Tom Hahne
Date: 2023.07.06
04:50:16 -05'00'

Quality Reviewer

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

ATTACHMENT

**DATA VALIDATION REPORT
EUROFINS AIR TOXICS REPORT NO. B102-032, B103-006, B103-
007 AND B103-008**

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	DTN 1909a	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B102-032		
Analyses	n-Butyl Acrylate by NIOSH Method 1450M		
Samples and Matrix	Twenty-eight (28) Air Samples including two field duplicates and three field blanks		
Collection Date(s)	04/08-04/09/2023		
Field Duplicate Pairs	EPD-PB-BKBA-011-040923-1/EPD-PB-BKBA-01-040923-1 EPD-PB-CM-066-040923-1/EPD-PB-CM-06-040923-1		
Field QC Blanks	EPD-PB-FB-01-040823-1 EPD-PB-FB-02-040823-1 EPD-PB-MB-01-040923-1		

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 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), the *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	The 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**

	<p>The extraction date information in the EDD did not match the laboratory report or was blank. The project management team confirmed that this information was not needed in the EDD; therefore, all extraction date information except the field header was deleted from the EDD.</p> <p>The sample analysis time was reported as default value 12 AM or 000 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>
--	--

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	<p>The second page of the COC did not have a signature/date/time for sample receipt at the laboratory.</p> <p>The COC identified two samples that were voided and, thus, not submitted to the laboratory.</p>

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
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.

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS REPORT NO. B102-032

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-BKBA-011-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-BKBA-02-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-06-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-066-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-07-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-08-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-09-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-10-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-11-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-12-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-DW-G-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-FB-01-040823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2.0	U
EPD-PB-FB-02-040823-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2.0	U
EPD-PB-MB-01-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2.0	U
EPD-PB-OD-01-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-02-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-03-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-04-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-05-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-06-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-07-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-01-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-02-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-03-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-04-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-05-040923-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-06-040923-1	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.	DTN 1909b	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B103-006	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029	
Analyses	Nine (9) Air Samples including one field blank.		
Samples and Matrix	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
Collection Date(s)	04/11/2023		
Field Duplicate Pairs	NA		
Field QC Blanks	EPD-ST-FB-041123-1		

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 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), the *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	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). 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 was deleted from the EDD.

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

	<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” interchangeably.</p> <p>The sample analysis time was reported as default value 12 AM or 000 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>
--	--

Sample preservation, receipt, and holding times:

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	

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

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

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCs/LCSDs:

Within Criteria	Exceedance/Notes
Y	The recovery in the LCSD was above QC limits for n-Butyl Acrylate. The relative percent difference (RPD) between LCS/LCSD was also greater than QC limits for this compound. As this analyte was not detected in any samples, no qualification of data was necessary for this circumstance.

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

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

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS REPORT NO. B103-006

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-B-041123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	U
EPD-ST-8H-DW-B-041123-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-8H-UW-F-041123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-UW-F-041123-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-8H-WA-01-041123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	U
EPD-ST-8H-WA-01-041123-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-8H-WA-02-041123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	U
EPD-ST-8H-WA-02-041123-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U			0.011 ppm	0.011	U
EPD-ST-8H-WA-03-041123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	U
EPD-ST-8H-WA-03-041123-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U			0.011 ppm	0.011	U
EPD-ST-8H-WA-04-041123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-04-041123-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.0090	U
EPD-ST-8H-WA-05-041123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U			0.013 ppm	0.013	U
EPD-ST-8H-WA-05-041123-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.0090	U
EPD-ST-8H-WA-06-041123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-06-041123-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.0090	U
EPD-ST-FB-041123-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	U
EPD-ST-FB-041123-1	IHGC-P029	141-32-2	n-Butyl acrylate	1.3	U			1.3 ug	1.3	U

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	DTN 1909c	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B103-007	by laboratory standard operating procedure (SOP) IHGC-P029	
Analyses	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029		
Samples and Matrix	Nine (9) Air Samples including one field blank		
Collection Date(s)	04/11/2023		
Field Duplicate Pairs	NA		
Field QC Blanks	EPD-ST-FB-041123-2		

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech *Quality Assurance Project Plan East Palestine Train Derailment Site East Palestine, Columbiana County, Ohio, EPA Region 5, Revision 3* (April 2023), the Tetra Tech *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 4* (August 2022), 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 was amended 4/19/23, per client request, to document the change of the average flow rate for EPD-ST-8H-WA-01-041123-2 (B103007003).</p> <p>Report was amended 6/3/23, per client request, to correct the sample identifications. Specifically, every sample ID was missing the “8H” notation.</p> <p>The Level II SDG did not have required QC forms thus a level IV package was reviewed.</p>

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

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).

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” interchangeably.

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 was deleted from the EDD.

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.

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
Y	None.

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCs/LCSDs:

Within Criteria	Exceedance/Notes
N	The recovery in the LCSD was above QC limits for n-Butyl Acrylate. The relative percent difference (RPD) between LCS/LCSD was also greater than QC limits for this compound. As this analyte was not detected in any samples, no qualification of data was necessary for this circumstance.

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	

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.

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

R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.
NF	The tentatively identified compound was manually searched for but was not found in the sample.

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS REPORT NO. B103-007

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-C-041123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-DW-C-041123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-8H-UW-G-041123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.012	U			0.012 ppm	0.012	U
EPD-ST-8H-UW-G-041123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.008	U			0.008 ppm	0.0080	U
EPD-ST-8H-WA-01-041123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U			0.014 ppm	0.014	U
EPD-ST-8H-WA-01-041123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-8H-WA-02-041123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U			0.016 ppm	0.016	U
EPD-ST-8H-WA-02-041123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U			0.011 ppm	0.011	U
EPD-ST-8H-WA-03-041123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-03-041123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-8H-WA-04-041123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-04-041123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-8H-WA-05-041123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-05-041123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-8H-WA-06-041123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U			0.015 ppm	0.015	U
EPD-ST-8H-WA-06-041123-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U			0.01 ppm	0.010	U
EPD-ST-FB-041123-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U			2.8 ug	2.8	U
EPD-ST-FB-041123-2	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.	DTN 1909d	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B103-008		
Analyses	n-Butyl Acrylate by NIOSH Method 1450M		
Samples and Matrix	Thirty-two (32) Air Samples including three field duplicates and four field blanks.		
Collection Date(s)	04/11/2023		
Field Duplicate Pairs	EPD-PB-WA-044-041123-2/EPD-PB-WA-04-041123-2 EPD-PB-WA-01-041123-2/EPD-PB-WA-011-041123-2 EPD-PB-OD-033-041123-2/EPD-PB-OD-03-041123-2		
Field QC Blanks	EPD-PB-MB-02-041123-2 EPD-PB-MB-03-041123-2 EPD-PB-FB-02-041123-2 EPD-PB-FB-03-041123-2		

INTRODUCTION

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

	<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 was deleted from the EDD.</p> <p>The sample analysis time was reported as default value 12 AM or 000 hours for the LCSD in the analysis date field. The analysis date was correct. The sample analysis time for the LCSD was not required for the EDD; therefore, this value was not manually revised.</p>
--	--

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	The second page of the COC did not have a signature/date/time for sample receipt at the laboratory.

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	

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

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

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	

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.

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
 EUROFINs ANALYTICS REPORT NO. B103-008

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-BKBA-02-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-06-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-07-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-08-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-09-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-10-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-11-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-12-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-14-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-DW-C-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-FB-02-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2.0	U
EPD-PB-FB-03-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2.0	U
EPD-PB-MB-02-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2.0	U
EPD-PB-MB-03-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2.0	U
EPD-PB-OD-01-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-02-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-03-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-033-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-04-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-05-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-06-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-07-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-UW-G-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-01-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-011-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-02-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-03-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-04-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-044-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-05-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-06-041123-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U