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July 10, 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. 1913**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting these data validation reports for fifty-six air samples (including two field duplicate air samples and five blank samples) collected at the East Palestine Site. The samples were collected on April 15 and 16, 2023, and were analyzed for acrylates by Eurofins Analytics, LLC in their Ashland, Virginia laboratory. The final revised laboratory data package was received on June 28, 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 for Organic Superfund Methods Data Review* (November 2020).

No rejection of results was required for these data packages. 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,

Diane
MacMillan
Digitally signed by Diane
MacMillan
Date: 2023.07.10
13:12:25 -06'00'

Chemical Engineer, PE

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

ATTACHMENT

**DATA VALIDATION REPORTS
EUROFINS ANALYTICS, LLC REPORT NOS. B108-198, B108-199,
B108-201 AND B108-205**

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

Site Name	East Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1913a	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B108-198	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029	
Analyses	Nine air samples including one field blank sample		
Samples and Matrix	None		
Collection Date(s)	04/15/2023		
Field Duplicate Pairs	None		
Field QC Blanks	EPD-ST-FB-041523-1		

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), and the *EPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

OVERALL EVALUATION

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

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

Data completeness:

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” and “Rohm & Haas IH9805” was listed in the EDD for QC samples. The laboratory confirmed that these refer to the same laboratory SOP; therefore, the method reference for QC samples was manually revised to “IHGC-P029” to match the method reference for field samples.</p> <p>Level II data package did not have the required QC forms; thus a level IV package was reviewed.</p> <p>The results for the field blank were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/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 was not provided for the LCSD in the EDD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. In addition, the LCS was identified as “LCS IHG230418D 10X” in the Samp_no field and “LCS IHG230” in the Lab_Samp_No field in the EDD, which did not match the laboratory report. The LCSD and LCS IDs (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	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

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

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
NA	

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

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 were not reported. Non-detect sample results are reported as less than the reporting limit in the laboratory report and at the reporting limit (flagged U) in the EDD and attached qualified data table.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [None]:

Within Criteria	Exceedance/Notes
NA	

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

Overall Qualifications:

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS REPORT NO. B108-198

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-A-041523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U		0.013 ppm	0.013	U
EPD-ST-8H-DW-A-041523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-ST-8H-UW-E-041523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U		0.016 ppm	0.016	U
EPD-ST-8H-UW-E-041523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U		0.011 ppm	0.011	U
EPD-ST-8H-WA-01-041523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.017	U		0.017 ppm	0.017	U
EPD-ST-8H-WA-01-041523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U		0.011 ppm	0.011	U
EPD-ST-8H-WA-02-041523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014 ppm	0.014	U
EPD-ST-8H-WA-02-041523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-ST-8H-WA-03-041523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014 ppm	0.014	U
EPD-ST-8H-WA-03-041523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-ST-8H-WA-04-041523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U		0.013 ppm	0.013	U
EPD-ST-8H-WA-04-041523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.008	U		0.008 ppm	0.008	U
EPD-ST-8H-WA-05-041523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014 ppm	0.014	U
EPD-ST-8H-WA-05-041523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01 ppm	0.01	U
EPD-ST-8H-WA-06-041523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014 ppm	0.014	U
EPD-ST-8H-WA-06-041523-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009 ppm	0.009	U
EPD-ST-FB-041523-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U		2.8 ug	2.8	U
EPD-ST-FB-041523-1	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	East Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1913b	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B108-199	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029	
Analyses	Nine air samples including one field blank sample		
Samples and Matrix	None		
Collection Date(s)	04/16/2023		
Field Duplicate Pairs	None		
Field QC Blanks	EPD-ST-FB-041623-2		

INTRODUCTION

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

OVERALL EVALUATION

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

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

Data completeness:	
Within Criteria	Exceedance/Notes
N	<p>The laboratory report included the following note: “The method reference, Rohm & Haas IH9805 is referenced to the AIHA certification IHGC-P029” and “Rohm & Haas IH9805” was listed in the EDD for QC samples. The laboratory confirmed that these refer to the same laboratory SOP; therefore, the method reference for QC samples was manually revised to “IHGC-P029” to match the method reference for field samples.</p> <p>Level II data package did not have the required QC forms; thus a level IV package was reviewed.</p> <p>The results for the field blank were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/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 was not provided for the LCSD in the EDD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. In addition, the LCS was identified as “LCS IHG230418D 10X” in the Samp_no field and “LCS IHG230” in the Lab_Samp_No field in the EDD, which did not match the laboratory report. The LCSD and LCS IDs (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> <p>A revised COC was submitted to the laboratory (included in laboratory package B108-201) with the corrected average flow value for sample EPD-ST-8H-WA-02-041623-2. Although the average flow was not included in the COC in this package, the correct total volume was included and used by the laboratory to calculate concentrations. A revised laboratory report including the revised COC was not received from the laboratory.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

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

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
NA	

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

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

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

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

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [None]:

Within Criteria	Exceedance/Notes
NA	

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

Overall Qualifications:

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS REPORT NO. B108-199

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-A-041623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U	0.016	ppm	0.016	U
EPD-ST-8H-DW-A-041623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.011	U	0.011	ppm	0.011	U
EPD-ST-8H-UW-E-041623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U	0.015	ppm	0.015	U
EPD-ST-8H-UW-E-041623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U	0.01	ppm	0.01	U
EPD-ST-8H-WA-01-041623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U	0.015	ppm	0.015	U
EPD-ST-8H-WA-01-041623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U	0.01	ppm	0.01	U
EPD-ST-8H-WA-02-041623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U	0.015	ppm	0.015	U
EPD-ST-8H-WA-02-041623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U	0.01	ppm	0.01	U
EPD-ST-8H-WA-03-041623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U	0.015	ppm	0.015	U
EPD-ST-8H-WA-03-041623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U	0.01	ppm	0.01	U
EPD-ST-8H-WA-04-041623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U	0.014	ppm	0.014	U
EPD-ST-8H-WA-04-041623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U	0.01	ppm	0.01	U
EPD-ST-8H-WA-05-041623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U	0.014	ppm	0.014	U
EPD-ST-8H-WA-05-041623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U	0.01	ppm	0.01	U
EPD-ST-8H-WA-06-041623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U	0.015	ppm	0.015	U
EPD-ST-8H-WA-06-041623-2	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U	0.01	ppm	0.01	U
EPD-ST-FB-041623-2	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U	2.8	ug	2.8	U
EPD-ST-FB-041623-2	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	East Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1913c	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B108-201	2-Ethylhexyl acrylate and n-butyl acrylate by laboratory standard operating procedure (SOP) IHGC-P029	
Analyses	Nine air samples including one field blank sample		
Samples and Matrix	None		
Collection Date(s)	04/16/2023		
Field Duplicate Pairs	None		
Field QC Blanks	EPD-ST-FB-041623-1		

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), and the *EPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

OVERALL EVALUATION

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

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

Data completeness:	
Within Criteria	Exceedance/Notes
N	<p>The laboratory report included the following note: “The method reference, Rohm & Haas IH9805 is referenced to the AIHA certification as IHGC-P029” and “Rohm & Haas IH9805” was listed in the EDD for QC samples. The laboratory confirmed that these refer to the same laboratory SOP; therefore, the method reference for QC samples was manually revised to “IHGC-P029” to match the method reference for field samples.</p> <p>Level II data package did not have all required QC forms; thus a level IV package was reviewed.</p> <p>The results for the field blank were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/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 was not provided for the LCSD in the EDD. Unique IDs are needed to keep from overwriting QC sample IDs when EDDs are uploaded to the client database. In addition, the LCS was identified as “LCS IHG230418E 10X” in the Samp_no field and “LCS IHG230” in the Lab_Samp_No field in the EDD. The LCSD and LCS IDs (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> <p>A revised COC was included in the laboratory report. The referenced sample (EPD-ST-8H-WA-02-041623-2) was not included in this laboratory package; the results for this sample were reported in report B108-199.</p>

Sample preservation, receipt, and holding times:	
Within Criteria	Exceedance/Notes
Y	

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

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
NA	

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

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

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	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.

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

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

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [None]:

Within Criteria	Exceedance/Notes
NA	

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

Overall Qualifications:

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS REPORT NO. B108-201

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-ST-8H-DW-C-041623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	U
EPD-ST-8H-DW-C-041623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-ST-8H-UW-G-041623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U		0.013	ppm	0.013	U
EPD-ST-8H-UW-G-041623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-ST-8H-WA-01-041623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.018	U		0.018	ppm	0.018	U
EPD-ST-8H-WA-01-041623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.012	U		0.012	ppm	0.012	U
EPD-ST-8H-WA-02-041623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.015	U		0.015	ppm	0.015	U
EPD-ST-8H-WA-02-041623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	U
EPD-ST-8H-WA-03-041623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.01	U		0.01	ppm	0.01	U
EPD-ST-8H-WA-03-041623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.007	U		0.007	ppm	0.007	U
EPD-ST-8H-WA-04-041623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.013	U		0.013	ppm	0.013	U
EPD-ST-8H-WA-04-041623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-ST-8H-WA-05-041623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.016	U		0.016	ppm	0.016	U
EPD-ST-8H-WA-05-041623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.01	U		0.01	ppm	0.01	U
EPD-ST-8H-WA-06-041623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	0.014	U		0.014	ppm	0.014	U
EPD-ST-8H-WA-06-041623-1	IHGC-P029	141-32-2	n-Butyl acrylate	0.009	U		0.009	ppm	0.009	U
EPD-ST-FB-041623-1	IHGC-P029	103-11-7	2-Ethylhexyl acrylate	2.8	U		2.8	ug	2.8	U
EPD-ST-FB-041623-1	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	East Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	1913d	Laboratory	Eurofins Analytics, LLC, Ashland VA
Laboratory Report No.	B108-205	n-Butyl acrylate analysis by National Institute for Occupational Safety and Health (NIOSH) Method 1450M	
Analyses	29 air samples including two duplicate air samples and two field blank samples		
Samples and Matrix	04/16/2023		
Collection Date(s)	EPD-PB-CM-099-041623-1/EPD-PB-CM-09-041623-1		
Field Duplicate Pairs	EPD-PB-OD-07-041623-1/EPD-PB-OD-077-041623-1		
Field QC Blanks	EPD-PB-MB-01-041623-1 EPD-PB-FB-01-041623-1		

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 4 (August 2022)*, and the *EPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

OVERALL EVALUATION

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

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

Data completeness:

Within Criteria	Exceedance/Notes
Y	<p>Level II data package did not have all required QC forms; thus a level IV package was reviewed.</p> <p>The results for the field blanks were reported in units of micrograms (µg) while the other sample results were reported in units of µg, milligram per cubic meter (mg/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 was 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
N	The second page of the COC was unsigned by the laboratory with the date and time received. The samples were shipped and received with the samples on page one of the COC. No qualification was applied.

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

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

Surrogates and labeled compounds:

Within Criteria	Exceedance/Notes
NA	

MS/MSDs:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
Y	

LCs/LCSDs:

Within Criteria	Exceedance/Notes
N	The percent recovery value exceeded the QAPP acceptance limit in the LCS. The n-butyl acrylate result was non-detect in all samples; 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 [None]:

Within Criteria	Exceedance/Notes
NA	

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

Overall Qualifications:

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

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

E PALESTINE SITE - ER AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS REPORT NO. B108-205

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	MDL	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-PB-BKBA-02-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-06-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-PB-CM-07-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-08-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-09-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-099-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-10-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-11-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-12-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-CM-14-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-DW-C-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.0090	U
EPD-PB-FB-01-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2	U
EPD-PB-MB-01-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U			2 ug	2	U
EPD-PB-OD-01-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-PB-OD-02-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-03-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-04-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-PB-OD-05-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-06-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-PB-OD-07-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-OD-077-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-UW-G-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-PB-WA-01-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-02-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-PB-WA-03-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U
EPD-PB-WA-04-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-05-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U			0.0091 ppm	0.0091	U
EPD-PB-WA-06-041623-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U			0.009 ppm	0.009	U