



December 13, 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

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**Subject: Data Validation Report
E Palestine Site - ER
EPA Contract No.: 68HE0519D0005
Task Order/Task Order Line-Item No.: 68HE0520F0032/0001EB201
Document Tracking No. 2224**

Dear Mr. Peters:

Tetra Tech, Inc. (Tetra Tech) is submitting this data validation report for 122 air samples (including 10 field duplicate samples, 6 field blank samples, and 6 media blanks) collected at the E Palestine site. The samples were collected on July 20, 23, and 28, 2023 and were analyzed for acrylates by Eurofins Analytics, LLC. The final laboratory data package was received on August 2, 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 qualification or rejection of results was required for these data packages. The results may 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,

Casey
Cormier

Digitally signed by
Casey Cormier
Date: 2023.12.13
13:32:29 -05'00'

Environmental Chemist

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

**DATA VALIDATION REPORT
EUROFINS ANALYTICS, LLC NOS.
B205-130, B206-112, B206-117, B212-133**

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

Site Name	E Palestine Site - ER	TO/TOLIN No.	68HE0520F0032/0001EB201
Document Tracking No.	2224a		
Laboratory Report No.	B205-130	Laboratory	Eurofins Analytics, LLC – Ashland, VA
Analyses	n-Butyl acrylate by NIOSH Method 1450M		
Samples and Matrix	29 air samples including one field blank, one media blank and two field duplicate pairs		
Collection Date(s)	07/20/2023		
Field Duplicate Pairs	EPD-PB-CM-10-072023-1 / EPD-PB-CM-100-072023-1 EPD-PB-CM-11-072023-1 / EPD-PB-CM-111-072023-1		
Field QC Blanks	EPD-PB-FB-01-072023-1 and EPD-PB-MB-01-072023-1		

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 (QAPP), 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 and media blank 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>To facilitate sample reporting, large sample delivery groups may be logged by the laboratory separately by individual pages of the chain of custody form. The ratio of field quality control (QC) samples (field blanks, media blanks, and field duplicates) to non-QC field samples is monitored independent of this validation and therefore the ratio of field QC samples to non-QC field samples was not verified during this validation. No qualifications were applied because all field sample results were nondetect.</p> <p>Note, the following fields in the laboratory EDD may be formatted as date only or as date/time: Date_Collected, Date_Received, Date_Extracted, and Date_Analyzed. The time value was not required to be provided in the EDD. If no time value was provided, then the entered value may appear as date only or with a default time value of 0:00, 00:00, or similar.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
N	<p>Nondetect results for laboratory method blank LMB IHG230724D and laboratory reagent blank (LRB) LRB IHG230724D were reported as “0” in the laboratory EDD rather than at the reporting limit (RL). The laboratory was contacted on August 28, 2023, and agreed to report nondetect laboratory method blank and LRB results at the RL in future laboratory EDDs.</p>

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

Field blanks:

Within Criteria	Exceedance/Notes
N	Only 1 field blank sample was included in this data package although the site-specific QAPP specifies the collection of 1 field blank per 20 field samples. No qualifications were applied because all sample results were nondetect.

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
N	Only 2 field duplicate samples were included in this data package although the site-specific QAPP specifies the collection of 1 field duplicate sample per 10 field samples. Based on professional judgement, no qualifications were applied.

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

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
N	<p>The laboratory report and laboratory EDD have one or more minor discrepancies in the laboratory control sample (LCS)/LCS duplicate (LCSD) results (+/- 1 ug), relative percent differences (+/- 2%) and/or percent recoveries (+/- 1%) that were verified with the laboratory to be significant figures issue(s). No qualifications were applied.</p> <p>The site-specific QAPP requires a LRB, laboratory media blank, LCS, and LCSD to be analyzed per batch of 20 samples. However, the laboratory analyzed 29 field samples in 1 sample preparation batch that included 1 LRB, laboratory media blank, LCS, and LCSD, when the batch should have included 2 LRBs, laboratory media blanks, LCSs, and LCSDs. The laboratory was contacted on August 8, 2023 about this deviation from the site-specific QAPP and agreed that they would follow the QC sample frequency requirements in the site-specific QAPP in future reports. No qualifications were applied based on professional judgment because the QC sample results met the QAPP acceptance criteria, and the QC sample results from previous datasets for this project have met the QAPP acceptance criteria.</p>

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 RL in the laboratory report and at the RL (flagged U) in the validated EDD and attached analytical results summary.

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

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [None]:

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.

EAST PALESTINE SITE - AIR ANALYTICAL RESULTS SUMMARY
EUROFINS ANALYTICS, LLC REPORT NO. B205-130

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-BKBA-02-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-CM-06-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-CM-07-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-CM-08-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-CM-09-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-CM-10-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-CM-100-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-CM-11-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-CM-111-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-CM-12-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-CM-14-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-DW-D-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-FB-01-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2 U	U	2	ug	2 U	U
EPD-PB-MB-01-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2 U	U	2	ug	2 U	U
EPD-PB-OD-01-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-OD-02-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-OD-03-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-OD-04-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-OD-05-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-OD-06-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-OD-07-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-UW-H-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-WA-01-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-WA-02-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-WA-03-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-WA-04-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-WA-05-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 U	U
EPD-PB-WA-06-072023-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091 U	U	0.0091	ppm	0.0091 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.	2224b		
Laboratory Report No.	B206-112	Laboratory	Eurofins Analytics, LLC – Ashland, VA
Analyses	n-Butyl acrylate by NIOSH Method 1450M		
Samples and Matrix	29 air samples including 1 field blank, 1 media blank and 2 field duplicate pairs		
Collection Date(s)	07/23/2023		
Field Duplicate Pairs	EPD-PB-CM-07-072323-1/EPD-PB-CM-077-072323-1 EPD-PB-WA-05-072323-1/EPD-PB-WA-055-072323-1		
Field QC Blanks	EPD-PB-FB-01-072323-1 and EPD-PB-MB-01-072323-1		

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 (QAPP), 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 and media blank 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>To facilitate sample reporting, large sample delivery groups may be logged by the laboratory separately by individual pages of the chain of custody form. The ratio of field quality control (QC) samples (field blanks, media blanks, and field duplicates) to non-QC field samples is monitored independent of this validation and therefore the ratio of field QC samples to non-QC field samples was not verified during this validation. No qualifications were applied because all field sample results were nondetect.</p> <p>Note, the following fields in the laboratory EDD may be formatted as date only or as date/time: Date_Collected, Date_Received, Date_Extracted, and Date_Analyzed. The time value was not required to be provided in the EDD. If no time value was provided, then the entered value may appear as date only or with a default time value of 0:00, 00:00, or similar.</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
N	<p>Nondetect results for laboratory reagent blank (LRB) LRB IHG230725B was reported as “0” in the laboratory EDD rather than at the reporting limit (RL). The laboratory was contacted on August 28, 2023, and agreed to report nondetect laboratory method blank and LRB results at the RL in future laboratory EDDs. No qualifications were applied.</p> <p>Laboratory method blank LMB IHG230725B contained n-butyl acrylate at concentrations less than the RLs. The laboratory was contacted on August 28, 2023, and resolved the laboratory method blank and LRB results in future laboratory EDDs. No qualifications were applied because the laboratory is only reporting down to the RL and all n-butyl acrylate sample results were nondetect.</p>

Field blanks:

Within Criteria	Exceedance/Notes
N	Only 1 field blank sample was included in this data package although the site-specific QAPP specifies the collection of 1 field blank per 20 field samples. No qualifications were applied because all sample results were nondetect.

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
N	Only 2 field duplicate samples were included in this data package although the site-specific QAPP specifies the collection of 1 field duplicate sample per 10 field samples. Based on professional judgement, no qualifications were applied.

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
N	<p>The laboratory report and laboratory EDD have one or more minor discrepancies in the laboratory control sample (LCS)/LCS duplicate (LCSD) results (+/- 1 ug), relative percent differences (+/- 2%) and/or percent recoveries (+/- 1%) that were verified with the laboratory to be significant figures issue(s). No qualifications were applied.</p> <p>The site-specific QAPP requires a LRB, laboratory media blank, LCS, and LCSD to be analyzed per batch of 20 samples. However, the laboratory analyzed 29 field samples in 1 sample preparation batch that included 1 LRB, laboratory media blank, LCS, and LCSD, when the batch should have included 2 LRBs, laboratory media blanks, LCSs, and LCSDs. The laboratory was contacted on August 8, 2023 about this deviation from the site-specific QAPP and agreed that they would follow the QC sample frequency requirements in the site-specific QAPP in future reports. No qualifications were applied based on professional judgment because the QC sample results met the QAPP acceptance criteria, and the QC sample results from previous datasets for this project have met the QAPP acceptance criteria.</p>

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

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

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Method detection limits were not reported. Non-detect sample results are reported as less than the 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.

EAST PALESTINE SITE - AIR ANALYTICAL RESULTS SUMMARY
 EUROFINIS ANALYTICS, LLC REPORT NO. B206-112

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-BKBA-02-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-06-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-07-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-077-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-08-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-09-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-10-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-11-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-12-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-14-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-DW-D-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-FB-01-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-MB-01-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-OD-01-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-02-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-03-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-04-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-05-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-06-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-07-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-UW-H-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-01-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-02-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-03-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-04-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-05-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-055-072323-1	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-06-072323-1	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.	2224c		
Laboratory Report No.	B206-117	Laboratory	Eurofins Analytics, LLC – Ashland, VA
Analyses	n-Butyl acrylate by NIOSH Method 1450M		
Samples and Matrix	32 air samples including 2 field blanks, 2 media blanks and 3 field duplicate pairs		
Collection Date(s)	07/23/2023		
Field Duplicate Pairs	EPD-PB-CM-06-072323-2/EPD-PB-CM-066-072323-2 EPD-PB-OD-07-072323-2/EPD-PB-OD-077-072323-2 EPD-PB-WA-06-072323-2/EPD-PB-WA-066-072323-2		
Field QC Blanks	EPD-PB-FB-02-072323-2, EPD-PB-FB-03-072323-2, EPD-PB-MB-02-072323-2, and EPD-PB-MB-03-072323-2		

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 (QAPP), 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 and media blank 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>To facilitate sample reporting, large sample delivery groups may be logged by the laboratory separately by individual pages of the chain of custody form. The ratio of field quality control (QC) samples (field blanks, media blanks, and field duplicates) to non-QC field samples is monitored independent of this validation and therefore the ratio of field QC samples to non-QC field samples was not verified during this validation. No qualifications were applied because all field sample results were nondetect.</p> <p>Note, the following fields in the laboratory EDD may be formatted as date only or as date/time: Date_Collected, Date_Received, Date_Extracted, and Date_Analyzed. The time value was not required to be provided in the EDD. If no time value was provided, then the entered value may appear as date only or with a default time value of 0:00, 00:00, or similar.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
N	<p>Nondetect results for laboratory reagent blank (LRB) LRB IHG230725D and laboratory method blank LMB IHG230725D were reported as “0” in the laboratory EDD rather than at the reporting limit (RL). The laboratory was contacted on August 28, 2023, and agreed to report nondetect laboratory method blank and LRB results at the RL in future laboratory EDDs.</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**

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
N	<p>The laboratory report and laboratory EDD have one or more minor discrepancies in the laboratory control sample (LCS)/LCS duplicate (LCSD) results (+/- 1 ug), relative percent differences (+/- 2%), and/or percent recoveries (+/- 1%) that were verified with the laboratory to be significant figures issue(s). No qualifications were applied.</p> <p>The site-specific QAPP requires a LRB, laboratory media blank, LCS, and LCSD to be analyzed per batch of 20 samples. However, the laboratory analyzed 32 field samples in 1 sample preparation batch that included 1 LRB, laboratory media blank, LCS, and LCSD, when the batch should have included 2 LRBs, laboratory media blanks, LCSs, and LCSDs. The laboratory was contacted on August 8, 2023 about this deviation from the site-specific QAPP and agreed that they would follow the QC sample frequency requirements in the site-specific QAPP in future reports. No qualifications were applied based on professional judgment because the QC sample results met the QAPP acceptance criteria, and the QC sample results from previous datasets for this project have met the QAPP acceptance criteria.</p>

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 RL in the laboratory report and at the RL (flagged U) in the validated EDD and attached analytical results summary.

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

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [None]:

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.

EAST PALESTINE SITE - AIR ANALYTICAL RESULTS SUMMARY
 EUROFINs ANALYTICS, LLC REPORT NO. B206-117

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0087	U	0.0087	ppm	0.0087	U
EPD-PB-BKBA-02-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-06-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-066-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-07-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-08-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-09-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0084	U	0.0084	ppm	0.0084	U
EPD-PB-CM-10-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0085	U	0.0085	ppm	0.0085	U
EPD-PB-CM-11-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0086	U	0.0086	ppm	0.0086	U
EPD-PB-CM-12-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0087	U	0.0087	ppm	0.0087	U
EPD-PB-CM-14-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0089	U	0.0089	ppm	0.0089	U
EPD-PB-DW-B-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-FB-02-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-FB-03-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-MB-02-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-MB-03-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-OD-01-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-02-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-03-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0088	U	0.0088	ppm	0.0088	U
EPD-PB-OD-04-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-05-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-06-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-07-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0084	U	0.0084	ppm	0.0084	U
EPD-PB-OD-077-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0084	U	0.0084	ppm	0.0084	U
EPD-PB-UW-F-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-01-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0088	U	0.0088	ppm	0.0088	U
EPD-PB-WA-02-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U	0.009	ppm	0.009	U
EPD-PB-WA-03-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-04-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.009	U	0.009	ppm	0.009	U
EPD-PB-WA-05-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-06-072323-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-066-072323-2	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.	2224d		
Laboratory Report No.	B212-133	Laboratory	Eurofins Analytics, LLC – Ashland, VA
Analyses	n-Butyl acrylate by NIOSH Method 1450M		
Samples and Matrix	32 air samples including 2 field blanks, 2 media blanks and 3 field duplicate pairs		
Collection Date(s)	07/28/2023		
Field Duplicate Pairs	EPD-PB-BKBA-01-072823-2/EPD-PB-BKBA-011-072823-2 EPD-PB-WA-02-072823-2/EPD-PB-WA-022-072823-2 EPD-PB-WA-05-072823-2/EPD-PB-WA-055-072823-2		
Field QC Blanks	EPD-PB-FB-02-072823-2, EPD-PB-FB-03-072823-2, EPD-PB-MB-02-072823-2, and EPD-PB-MB-03-072823-2		

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 (QAPP), 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 and media blank 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>To facilitate sample reporting, large sample delivery groups may be logged by the laboratory separately by individual pages of the chain of custody form. The ratio of field quality control (QC) samples (field blanks, media blanks, and field duplicates) to non-QC field samples is monitored independent of this validation and therefore the ratio of field QC samples to non-QC field samples was not verified during this validation. No qualifications were applied because all field sample results were nondetect.</p> <p>Note, the following fields in the laboratory EDD may be formatted as date only or as date/time: Date_Collected, Date_Received, Date_Extracted, and Date_Analyzed. The time value was not required to be provided in the EDD. If no time value was provided, then the entered value may appear as date only or with a default time value of 0:00, 00:00, or similar.</p>

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
N	<p>Nondetect results for laboratory reagent blanks (LRB) LRB IHG230731M and LRB IHG230731N and laboratory method blanks LMB IHG230731M and LMB IHG230731N were reported as “0” in the laboratory EDD rather than at the reporting limit (RL). The laboratory was contacted on August 28, 2023, and agreed to report nondetect laboratory method blank and LRB results at the RL in future laboratory EDDs. No qualifications were applied.</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**

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
N	The laboratory report and laboratory EDD have one or more minor discrepancies in the laboratory control sample (LCS)/LCS duplicate (LCSD) results (+/- 1 ug), relative percent differences (+/-2%) and/or percent recoveries (+/- 1%) that were verified with the laboratory to be significant figures issue(s). No qualifications were 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 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	

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

Other [None]:

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:

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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.

EAST PALESTINE SITE - AIR ANALYTICAL RESULTS SUMMARY
 EUROFINs ANALYTICS, LLC REPORT NO. B212-133

Sample_ID	Method	CAS#	Analyte	Lab_Result	Lab_Qual	RL	Units	VAL_Result	VAL_Qual
EPD-PB-BKBA-01-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-BKBA-011-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-BKBA-02-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-06-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-07-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-08-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-09-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-10-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-11-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-12-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-CM-14-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-DW-B-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-FB-02-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-FB-03-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-MB-02-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-MB-03-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	2	U	2	ug	2	U
EPD-PB-OD-01-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-02-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-03-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-04-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-05-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-06-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-OD-07-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-UW-F-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-01-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-02-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-022-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-03-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-04-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-05-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-055-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U
EPD-PB-WA-06-072823-2	NIOSH Method 1450M	141-32-2	n-Butyl acrylate	0.0091	U	0.0091	ppm	0.0091	U