

## Cover Page

**Order ID :** P4471

**Project ID :** Amtrak Sawtooth Bridges 2024

**Client :** Portal Partners Tri-Venture

**Lab Sample Number**

P4471-01  
P4471-02  
P4471-03

**Client Sample Number**

B-180-SB01  
B-180-SB02  
TB100824

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : \_\_\_\_\_

Date: 10/28/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

## DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following “ Results Qualifiers” are used:

<b>J</b>	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
<b>U</b>	Indicates the analyte was analyzed for, but not detected.
<b>ND</b>	Indicates the analyte was analyzed for, but not detected
<b>E</b>	Indicates the reported value is estimated because of the presence of interference
<b>M</b>	Indicates Duplicate injection precision not met.
<b>N</b>	Indicates the spiked sample recovery is not within control limits.
<b>S</b>	Indicates the reported value was determined by the Method of Standard Addition (MSA).
<b>*</b>	Indicates that the duplicate analysis is not within control limits.
<b>+</b>	Indicates the correlation coefficient for the MSA is less than 0.995.
<b>D</b>	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
<b>M</b>	Method qualifiers “P” for ICP instrument “PM” for ICP when Microwave Digestion is used “CV” for Manual Cold Vapor AA “AV” for automated Cold Vapor AA “CA” for MIDI-Distillation Spectrophotometric “AS” for Semi -Automated Spectrophotometric “C” for Manual Spectrophotometric “T” for Titrimetric “NR” for analyte not required to be analyzed
<b>OR</b>	Indicates the analyte’s concentration exceeds the calibrated range of the instrument for that specific analysis.
<b>Q</b>	Indicates the LCS did not meet the control limits requirements
<b>H</b>	Sample Analysis Out Of Hold Time

## APPENDIX A

### QA REVIEW GENERAL DOCUMENTATION

Project #: P4471

Completed

For thorough review, the report must have the following:

#### GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

#### COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

#### CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Custody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

#### ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: MAYUR DESAI

Date: 10/28/2024

## LAB CHRONICLE

<b>OrderID:</b>	P4471	<b>OrderDate:</b>	10/21/2024 1:01:00 PM
<b>Client:</b>	Portal Partners Tri-Venture	<b>Project:</b>	Amtrak Sawtooth Bridges 2024
<b>Contact:</b>	Joseph Krupansky	<b>Location:</b>	J61,VOA Ref. #2 Soil,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
<b>P4471-01</b>	<b>B-180-SB01</b>	<b>SOIL</b>			<b>10/19/24 14:00</b>			<b>10/21/24</b>
			Hexavalent Chromium	7196A		10/22/24	10/22/24 13:08	
			Trivalent Chromium	6010D			10/24/24 18:20	
<b>P4471-02</b>	<b>B-180-SB02</b>	<b>SOIL</b>			<b>10/20/24 12:45</b>			<b>10/21/24</b>
			Hexavalent Chromium	7196A		10/22/24	10/22/24 13:09	
			Trivalent Chromium	6010D			10/24/24 18:24	



# SAMPLE DATA

## Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	10/19/24 14:00
Project:	Amtrak Sawtooth Bridges 2024	Date Received:	10/21/24
Client Sample ID:	B-180-SB01	SDG No.:	P4471
Lab Sample ID:	P4471-01	Matrix:	SOIL
		% Solid:	82.8

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Hexavalent Chromium	0.094	U	1	0.094	0.48	mg/Kg	10/22/24 09:00	10/22/24 13:08	7196A
Trivalent Chromium	20.5		1	0.60	0.60	mg/Kg		10/24/24 18:20	6010D

Comments: \_\_\_\_\_

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

\* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits

## Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	10/20/24 12:45
Project:	Amtrak Sawtooth Bridges 2024	Date Received:	10/21/24
Client Sample ID:	B-180-SB02	SDG No.:	P4471
Lab Sample ID:	P4471-02	Matrix:	SOIL
		% Solid:	49.2

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Hexavalent Chromium	0.16	U	1	0.16	0.80	mg/Kg	10/22/24 09:00	10/22/24 13:09	7196A
Trivalent Chromium	6.46		1	1.02	1.02	mg/Kg		10/24/24 18:24	6010D

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

\* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits



# QC RESULT SUMMARY





284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,  
Fax : 908 789 8922

### Initial and Continuing Calibration Verification

**Client:** Portal Partners Tri-Venture  
**Project:** Amtrak Sawtooth Bridges 2024

**SDG No.:** P4471  
**RunNo.:** LB133044

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: <b>ICV</b> Hexavalent Chromium	mg/L	0.503	0.5	101	90-110	10/22/2024
Sample ID: <b>CCV1</b> Hexavalent Chromium	mg/L	0.499	0.5	100	90-110	10/22/2024
Sample ID: <b>CCV2</b> Hexavalent Chromium	mg/L	0.500	0.5	100	90-110	10/22/2024
Sample ID: <b>CCV3</b> Hexavalent Chromium	mg/L	0.503	0.5	101	90-110	10/22/2024

### Initial and Continuing Calibration Blank Summary

**Client:** Portal Partners Tri-Venture  
**Project:** Amtrak Sawtooth Bridges 2024

**SDG No.:** P4471  
**RunNo.:** LB133044

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: <b>ICB</b> Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	10/22/2024
Sample ID: <b>CCB1</b> Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	10/22/2024
Sample ID: <b>CCB2</b> Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	10/22/2024
Sample ID: <b>CCB3</b> Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	10/22/2024

### Preparation Blank Summary

**Client:** Portal Partners Tri-Venture

**SDG No.:** P4471

**Project:** Amtrak Sawtooth Bridges 2024

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: <b>PB164266BL</b>							
Hexavalent Chromium	mg/Kg	< 0.2000	0.2000	U	0.079	0.4	10/22/2024

### Matrix Spike Summary

<b>Client:</b>	Portal Partners Tri-Venture	<b>SDG No.:</b>	P4471
<b>Project:</b>	Amtrak Sawtooth Bridges 2024	<b>Sample ID:</b>	P4460-03
<b>Client ID:</b>	WB-303-BOTMS	<b>Percent Solids for Spike Sample:</b>	80.1

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	75-125	1450		0.098	U	1600	40	91		10/22/2024

### Matrix Spike Summary

<b>Client:</b>	Portal Partners Tri-Venture	<b>SDG No.:</b>	P4471
<b>Project:</b>	Amtrak Sawtooth Bridges 2024	<b>Sample ID:</b>	P4460-03
<b>Client ID:</b>	WB-303-BOTMS	<b>Percent Solids for Spike Sample:</b>	<b>80.1</b>

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	85-115	46.7		0.098	U	49.9	2	94		10/22/2024

### Matrix Spike Summary

<b>Client:</b>	Portal Partners Tri-Venture	<b>SDG No.:</b>	P4471
<b>Project:</b>	Amtrak Sawtooth Bridges 2024	<b>Sample ID:</b>	P4460-03
<b>Client ID:</b>	WB-303-BOTMS	<b>Percent Solids for Spike Sample:</b>	<b>80.1</b>

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	75-125	38.6		0.098	U	49.9	2	77		10/22/2024

### Duplicate Sample Summary

<b>Client:</b>	Portal Partners Tri-Venture	<b>SDG No.:</b>	P4471
<b>Project:</b>	Amtrak Sawtooth Bridges 2024	<b>Sample ID:</b>	P4460-03
<b>Client ID:</b>	WB-303-BOTDUP	<b>Percent Solids for Spike Sample:</b>	80.1

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	+/-20	0.098	U	0.098	U	1	0		10/22/2024

### Laboratory Control Sample Summary

**Client:** Portal Partners Tri-Venture

**SDG No.:** P4471

**Project:** Amtrak Sawtooth Bridges 2024

**Run No.:** LB133044

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB164266BS							
Hexavalent Chromium	mg/Kg	20	20.0		100	1	84-110	10/22/2024





# RAW DATA

Analysis Method: 7196A

ANALYST: rubina

Parameter: ~~Hexavalent Chromium~~

SUPERVISOR REVIEW BY: Iwona

Run Number: LB133044

pH Meter ID: WC pH Meter-1

Reagent/Standard	Lot/Log #
hexavalent chromium color reagent	WP110246
5N sulfuric acid	WP107791
HNO3 Hex-Chrome, 5M	WP107796
Hexchrome Cleaning Solution	WP108645

Intercept: 0.0014

Slope: 0.7652

Regression: 0.999996

Seq	Lab ID	True Value (mg/l)	DF	Initial Vol (ml)	Final Vol (ml)	pH HNO3	pH H2SO4	Absorb.at 540nm		Absorbance Difference	Result (mg/L)	%D	Anal Date	Anal Time
								Backgrnd	Color					
1	CAL1	0	1	100	100	7.28	1.79	0.000	0.000	0.000	-0.00		10/22/2024	12:40
2	CAL2	0.01	1	100	100	7.40	1.91	0.000	0.009	0.009	0.009	-10	10/22/2024	12:41
3	CAL3	0.025	1	100	100	7.37	1.86	0.000	0.021	0.021	0.025	0	10/22/2024	12:42
4	CAL4	0.05	1	100	100	7.38	1.88	0.000	0.040	0.040	0.050	0	10/22/2024	12:43
5	CAL5	0.1	1	100	100	7.36	1.84	0.000	0.078	0.078	0.100	0	10/22/2024	12:44
6	CAL6	0.5	1	100	100	7.39	1.88	0.000	0.385	0.385	0.501	0.2	10/22/2024	12:45
7	CAL7	1	1	100	100	7.36	1.90	0.000	0.766	0.766	0.999	-0.1	10/22/2024	12:46



# Analytical Summary Report

Reviewed By:Iwona  
On:10/24/2024 9:43:11  
AM  
Inst Id  
SPECTROPHOTOME

Analysis Method: 7196A

ANALYST:rubina

Parameter: Hexavalent Chromium

SUPERVISOR REVIEW BY:Iwona

Run Number: LB133044

pH Meter ID:WC pH Meter-1

Seq	Lab ID	True Value	DF	Initial Vol (ml/gm)	Final Vol (ml)	pH HN03	pH H2SO4	Absorb.at540nm		Absorbance Difference	Intermediate Result (mg/L)	Anal Date	Anal Time
								Backgrnd	Color				
1	ICV	0.5	1	100	100	7.41	1.94	0.000	0.386	0.386	0.503	10/22/2024	12:47
2	ICB		1	100	100	7.38	1.79	0.000	0.001	0.001	-0.001	10/22/2024	12:48
3	CCV1	0.5	1	100	100	7.44	1.96	0.000	0.383	0.383	0.499	10/22/2024	12:49
4	CCB1		1	100	100	7.25	1.81	0.000	0.000	0.000	-0.002	10/22/2024	12:50
5	RL Check	0.01	1	100	100	7.42	1.93	0.000	0.010	0.010	0.011	10/22/2024	12:51
6	PB164266BL		1	2.50	100	7.31	1.74	0.000	0.001	0.001	-0.001	10/22/2024	12:52
7	PB164266BS	20	1	2.50	100	7.43	1.93	0.000	0.385	0.385	0.501	10/22/2024	12:53
8	P4443-01		1	2.54	100	7.60	2.10	0.010	0.012	0.002	0.001	10/22/2024	12:54
9	P4443-06		1	2.51	100	7.64	2.18	0.032	0.032	0.000	-0.002	10/22/2024	12:55
10	P4458-01		1	2.52	100	7.60	2.20	0.008	0.009	0.001	-0.001	10/22/2024	12:56
11	P4460-02		1	2.53	100	7.68	2.28	0.010	0.012	0.002	0.001	10/22/2024	12:57
12	P4460-03		1	2.52	100	7.56	2.10	0.003	0.004	0.001	-0.001	10/22/2024	12:58
13	P4460-03DU		1	2.51	100	7.52	2.16	0.004	0.004	0.000	-0.002	10/22/2024	12:59
14	P4460-03MS	40	2	2.51	100	7.60	2.12	0.000	0.298	0.298	0.388	10/22/2024	13:00
15	P4460-03MS	1284	40	2.52	100	7.58	2.10	0.000	0.563	0.563	0.734	10/22/2024	13:01
16	CCV2	0.5	1	100	100	7.45	1.94	0.000	0.384	0.384	0.500	10/22/2024	13:02
17	CCB2		1	100	100	7.26	1.79	0.000	0.0000	0.000	-0.002	10/22/2024	13:03
18	P4460-03MS	40	2	2.52	100	7.60	2.10	0.000	0.362	0.362	0.471	10/22/2024	13:04
19	P4467-01		1	2.52	100	7.66	2.06	0.006	0.006	0.000	-0.002	10/22/2024	13:05
20	P4468-03		1	2.54	100	7.52	2.06	0.005	0.006	0.001	-0.001	10/22/2024	13:06
21	P4468-05		1	2.52	100	7.56	2.18	0.004	0.006	0.002	0.001	10/22/2024	13:07
22	P4471-01		1	2.54	100	7.57	2.12	0.006	0.008	0.002	0.001	10/22/2024	13:08
23	P4471-02		1	2.55	100	7.60	2.20	0.006	0.008	0.002	0.001	10/22/2024	13:09
24	P4472-01		1	2.56	100	7.58	2.06	0.004	0.006	0.002	0.001	10/22/2024	13:10
25	P4472-05		1	2.51	100	7.52	2.14	0.006	0.006	0.000	-0.002	10/22/2024	13:11
26	CCV3	0.5	1	100	100	7.46	1.96	0.000	0.386	0.386	0.503	10/22/2024	13:12
27	CCB3		1	100	100	7.29	1.80	0.000	0.0001	0.000	-0.002	10/22/2024	13:13

SOP ID : M3060A,7196A-Hex.Chromium-26

SDG No : N/A

Start Digest Date: 10/22/2024 Time : 09:00 Temp : 90 °C

Matrix : SOIL

End Digest Date: 10/22/2024 Time : 10:00 Temp : 94 °C

Pipette ID : WC

*il batch*  
10/22/2024 10-15 90°C RM  
10/22/2024 11-15 95°C

Balance ID : WC SC-4

Hood ID : HOOD#3

Digestion tube ID : M6054

Block Thermometer ID : WC-Block#1

Block ID : WC S-2, WC S-1

Filter paper ID : 400213

Prep Technician Signature: RM

Weigh By : RM

pH Meter ID : WC pH meter-1

Supervisor Signature: 12

Standardized Name	MLS USED	STD REF. # FROM LOG
PRE-DIGESTION SPIKE	2.0ML	WP108658
INSOLUBLE SPIKE	0.02GM	W2202
POST-DIGESTION SPIKE	2.0ML	WP108658
LCSS	1.0ML	WP108659
PBS003	50ML	W3112

Chemical Used	ML/SAMPLE USED	Lot Number
MAGNESIUM CHLORIDE	0.4GM	W3001
PHOSPHATE BUFFER	0.5ML	WP108008
HEX. DIGESTION SOLN.	50.0ML	WP110092
5M HNO3	5-7ML	WP107796
5N H2SO4	1-3ML	WP107791
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Vol(ml)	Comment
CAL1	CAL1	2.5ML	W3112
CAL2	CAL2	0.2ML	WP110336
CAL3	CAL3	0.5ML	WP110336
CAL4	CAL4	1ML	WP110336
CAL5	CAL5	0.2ML	WP108658
CAL6	CAL6	1ML	WP108658
CAL7	CAL7	2.0ML	WP108658
ICV	ICV	1ML	WP108659
ICB	ICB	2.5ML	W3112
CCV	CCV	1ML	WP108658
CCB	CCB	2.5ML	W3112

Extraction Conformance/Non-Conformance Comments:

10/22/2024 RM

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
P4443-01	OG-315-HR-502-COMP-29	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4443-06	OG-315-HR-502-COMP-30	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4458-01	280517	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4460-02	WB-303-TOP	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
P4460-03	WB-303-BOT	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4460-03DUP	WB-303-BOTDUP	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4460-03MSPre	WB-303-BOTMSPRE	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4460-03MS2Ins	WB-303-BOTMS2INS	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4460-03MS3Post	WB-303-BOTMS3POST	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4467-01	TP-1	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4468-03	ETGI-329	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4468-05	ETGI-345	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4471-01	B-180-SB01	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4471-02	B-180-SB02	2.55	100	N/A	N/A	N/A	N/A	N/A	N/A
P4472-01	BP-F-28	2.56	100	N/A	N/A	N/A	N/A	N/A	N/A
P4472-05	BP-F-6	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
PB164266BL	PBS266	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A
PB164266BS	LCS266	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A

# WORKLIST(Hardcopy Internal Chain)

WorkList Name : hex-10-24      WorkList ID : 184629      Department : Distillation      Date : 10-21-2024 08:48:19

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4460-02	WB-303-TOP	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	K51	10/18/2024	7196A
P4460-03	WB-303-BOT	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	K51	10/18/2024	7196A
P4471-01	B-180-SB01	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	J61	10/19/2024	7196A
P4471-02	B-180-SB02	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	J61	10/20/2024	7196A
P4443-01	OG-315-HR-502-COMP-29	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	K51	10/17/2024	7196A
P4443-06	OG-315-HR-502-COMP-30	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	K51	10/17/2024	7196A
P4458-01	280517	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	K51	10/18/2024	7196A
P4467-01	TP-1	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	K41	10/21/2024	7196A
P4468-03	ETGI-329	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	K51	10/21/2024	7196A
P4468-05	ETGI-345	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	K51	10/21/2024	7196A
P4472-01	BP-F-28	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	K51	10/21/2024	7196A
P4472-05	BP-F-6	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	K51	10/21/2024	7196A

Date/Time 10/22/2024 08:30  
Raw Sample Received by: RM  
Raw Sample Relinquished by: RM

Date/Time 10/22/2024 10:30  
Raw Sample Received by: RM  
Raw Sample Relinquished by: RM

**Instrument ID:** SPECTROPHOTOMETER-1

**Daily Analysis Runlog For Sequence/QC Batch ID # LB133044**

Review By	rubina	Review On	10/22/2024 1:21:12 PM
Supervise By	Iwona	Supervise On	10/24/2024 9:43:11 AM
SubDirectory	LB133044	Test	Hexavalent Chromium
<b>STD. NAME</b>	<b>STD REF.#</b>		
ICAL Standard	N/A		
ICV Standard	N/A		
CCV Standard	N/A		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP110246,WP107791,WP107796,WP108645		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	10/22/24 12:40		rubina	OK
2	CAL2	CAL2	CAL	10/22/24 12:41		rubina	OK
3	CAL3	CAL3	CAL	10/22/24 12:42		rubina	OK
4	CAL4	CAL4	CAL	10/22/24 12:43		rubina	OK
5	CAL5	CAL5	CAL	10/22/24 12:44		rubina	OK
6	CAL6	CAL6	CAL	10/22/24 12:45		rubina	OK
7	CAL7	CAL7	CAL	10/22/24 12:46		rubina	OK
8	ICV	ICV	ICV	10/22/24 12:47		rubina	OK
9	ICB	ICB	ICB	10/22/24 12:48		rubina	OK
10	CCV1	CCV1	CCV	10/22/24 12:49		rubina	OK
11	CCB1	CCB1	CCB	10/22/24 12:50		rubina	OK
12	RL Check	RL Check	SAM	10/22/24 12:51		rubina	OK
13	PB164266BL	PB164266BL	MB	10/22/24 12:52		rubina	OK
14	PB164266BS	PB164266BS	LCS	10/22/24 12:53		rubina	OK
15	P4443-01	OG-315-HR-502-COM	SAM	10/22/24 12:54		rubina	OK
16	P4443-06	OG-315-HR-502-COM	SAM	10/22/24 12:55		rubina	OK
17	P4458-01	280517	SAM	10/22/24 12:56		rubina	OK
18	P4460-02	WB-303-TOP	SAM	10/22/24 12:57		rubina	OK

Instrument ID: SPECTROPHOTOMETER-1

**Daily Analysis Runlog For Sequence/QC Batch ID # LB133044**

Review By	rubina	Review On	10/22/2024 1:21:12 PM
Supervise By	Iwona	Supervise On	10/24/2024 9:43:11 AM
SubDirectory	LB133044	Test	Hexavalent Chromium
<b>STD. NAME</b>	<b>STD REF.#</b>		
ICAL Standard	N/A		
ICV Standard	N/A		
CCV Standard	N/A		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP110246,WP107791,WP107796,WP108645		

19	P4460-03	WB-303-BOT	SAM	10/22/24 12:58		rubina	OK
20	P4460-03DUP	WB-303-BOTDUP	DUP	10/22/24 12:59		rubina	OK
21	P4460-03MSPre	WB-303-BOTMS	MS	10/22/24 13:00		rubina	OK
22	P4460-03MS2Ins	WB-303-BOTMS	MS	10/22/24 13:01		rubina	OK
23	CCV2	CCV2	CCV	10/22/24 13:02		rubina	OK
24	CCB2	CCB2	CCB	10/22/24 13:03		rubina	OK
25	P4460-03MS3Post	WB-303-BOTMS	MS	10/22/24 13:04		rubina	OK
26	P4467-01	TP-1	SAM	10/22/24 13:05		rubina	OK
27	P4468-03	ETGI-329	SAM	10/22/24 13:06		rubina	OK
28	P4468-05	ETGI-345	SAM	10/22/24 13:07		rubina	OK
29	P4471-01	B-180-SB01	SAM	10/22/24 13:08		rubina	OK
30	P4471-02	B-180-SB02	SAM	10/22/24 13:09		rubina	OK
31	P4472-01	BP-F-28	SAM	10/22/24 13:10		rubina	OK
32	P4472-05	BP-F-6	SAM	10/22/24 13:11		rubina	OK
33	CCV3	CCV3	CCV	10/22/24 13:12		rubina	OK
34	CCB3	CCB3	CCB	10/22/24 13:13		rubina	OK



### Prep Standard - Chemical Standard Summary

**Order ID :** P4471

**Test :** Hexavalent Chromium,Percent Solids,Trivalent Chromium

**Prepbatch ID :** PB164266,

**Sequence ID/Qc Batch ID:** LB133044, LB133164,

**Standard ID :**

WP107791, WP107796, WP108008, WP108645, WP108658, WP108659, WP110092, WP110246,

**Chemical ID :**

E3788, M5211, M5878, M5947, M5954, W2202, W2511, W2606, W2651, W2652, W2699, W2979, W3001, W3058, W3112, W3113,

## Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
126	5N sulfuric acid	<a href="#">WP107791</a>	05/07/2024	10/24/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								05/07/2024

**FROM** 140.00000ml of M5211 + 860.00000ml of W2606 = Final Quantity: 1.000 L

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1836	HNO3 Hex-Chrome, 5M	<a href="#">WP107796</a>	05/07/2024	10/24/2024	Rubina Mughal	None	None	Iwona Zarych
								05/07/2024

**FROM** 320.00000ml of M5878 + 680.00000ml of W2606 = Final Quantity: 1000.000 ml

## Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
190	HEX CHROME PHOSPHATE BUFFER	<a href="#">WP108008</a>	05/20/2024	10/24/2024	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych
								05/20/2024

**FROM** 0.84500L of W2606 + 68.04000gram of W2699 + 87.09000gram of W2511 = Final Quantity: 1.000 L

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3354	Hexchrome Cleaning Solution	<a href="#">WP108645</a>	07/05/2024	12/27/2024	Rubina Mughal	None	None	Iwona Zarych
								07/08/2024

**FROM** 182.00000ml of M5947 + 727.00000ml of W3112 + 91.00000ml of M5954 = Final Quantity: 1000.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1993	HEXAVALENTCHROMIUM STOCK STD 1, 50PPM	<a href="#">WP108658</a>	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych  07/09/2024
<b><u>FROM</u></b> 0.14140gram of W2651 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1994	HEXAVALENTCHROMIUM STOCK STD 2, 50PPM	<a href="#">WP108659</a>	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych  07/09/2024
<b><u>FROM</u></b> 0.14140gram of W2652 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
148	hexchrome digestion fluid	<a href="#">WP110092</a>	10/08/2024	11/08/2024	Rubina Mughal	WETCHEM_S CALE_4 (WC SC-4)	None	Iwona Zarych  10/08/2024
<b><u>FROM</u></b>	120.00000gram of W3058 + 4.00000L of W3112 + 80.00000gram of W3113 = Final Quantity: 4000.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
114	hexavalent chromium color reagent	<a href="#">WP110246</a>	10/16/2024	10/23/2024	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych  10/16/2024
<b><u>FROM</u></b> 0.25000gram of W2979 + 50.00000ml of E3788 = Final Quantity: 50.000 ml								

## CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	23H1462005	04/23/2025	08/13/2024 / Rajesh	08/13/2024 / Rajesh	E3788

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	22D0862014	01/20/2025	08/22/2022 /	04/26/2022 / mohan	M5211

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	23I0662003	10/28/2024	05/02/2024 / Al-Terek	04/26/2024 / Al-Terek	M5878

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	12/27/2024	06/27/2024 / Al-Terek	06/23/2024 / Al-Terek	M5947

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	01/02/2025	07/01/2024 / Al-Terek	06/25/2024 / Al-Terek	M5954

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA14125-36 / LEAD (II) CHROMATE, ACS, 500G	U19B018	01/23/2027	01/23/2017 / apatel	01/23/2017 / apatel	W2202

## CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3252-1 / POTAS PHOSPHATE, DIBASIC PWD, ACS, 500G	0000207436	04/29/2025	05/22/2019 / AMANDEEP	03/21/2019 / apatel	W2511

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA13450-36 / Potassium Dichromate, 500g(NEW)	T15F019	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2651

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P188-500 / Potassium Dichromate, 500g(new-2nd lot)	194664	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2652

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3246-1 / POTAS PHOSPHATE, MONO, CRYST, ACS, 500G	04/2019-20	04/23/2025	04/23/2020 / apatel	03/11/2020 / apatel	W2699

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	31390 / 1,5-Diphenylcarbazine	MKCR6636	12/09/2027	12/09/2022 / lwona	12/09/2022 / lwona	W2979

## CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	01237-10KG / Magnesium Chloride Hexahydrate ACS 10KG	002251-03319	06/06/2027	01/23/2023 / lwona	06/06/2022 / lwona	W3001

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EM-SX0395-3 / SODIUM CARBONATE ANHYDR 2.5KG	2023012653	10/19/2028	09/03/2024 / jignesh	10/19/2023 / lwona	W3058

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / lwona	07/03/2024 / lwona	W3112

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19510-7 / Sodium Hydroxide Pellets 12 Kg	23B1556310	12/31/2025	07/08/2024 / lwona	07/08/2024 / lwona	W3113



# Certificate of analysis

Product No. 14125  
Product: Lead(II) chromate, ACS, 98%  
Lot No.: U19B018

Test	Limits	Results
Assay	98.0 % min	99.3 %
Soluble matter	0.15 % max	< 0.02 %
Carbon compounds	0.01 % max	< 0.01 %

Traceable to NIST? Yes

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Fax : (F) +91-265-2638038  
E-mail : info@cpclndia.com  
Web : www.cpcindia.com

## CERTIFICATE OF ANALYSIS

PRODUCT : POTASSIUM PHOSPHATE MONOBASIC Anhy. - ACS		
CERTIFICATE NO	: 04/2019-20	DATE 13-05-2019
Date of receipt of sample	: 29.04.2019	Quantity : 1000 KGS.
Batch No. /Lot No.	: 04/2019-20	
Mfg. Date	: April-2019	
1. Characteristic : A White powder		
2. Identification : Positive		
	RESULT OBTAINED	LIMITS
3. Clarity and colour of solution : 10% solution is clear and colourless		
4. Assay (on dry basis)	99.35%	Min.99.00%
5. PH (5% solution)	4.28	4.1-4.5
6. Loss on Drying	0.06%	Max 0.2%
7. Heavy Metals	0.0004%	Max.0.001%
8. iron	0.001%	Max 0.002%
9. Sulphate	0.0015%	Max. 0.003%
10. Chloride	0.0005%	Max.0.001%
11. Insoluble Matter	0.002%	Max. 0.01%
12. Sodium	0.0038%	Max. 0.005%
The sample does comply with specification as per Above.		
Analysed by <u>J. A. PATHAK</u>		Quality Control Department

Product No.: 13450  
Product: Potassium dichromate, ACS, 99.0% min  
Lot No.: T15F019

Test	Limits	Results
Appearance	Orange-red crystals	Orange-red crystals
Identification	To Pass	Passes
Purity	99.0 % min	99.67 %
Insoluble matter	0.005 % max	0.004 %
Loss on drying	0.05 % max	0.03 %
Chloride	0.001 % max	< 0.001 %
Sulfate	0.005 % max	< 0.005 %
Iron	0.001 % max	< 0.001 %
Calcium	0.003 % max	0.0012 %
Sodium	0.02 % max	0.0047 %

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This is to certify that units of the lot number above were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the purchaser, formulator or those performing further manufacturing to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The above information is the actual analytical results obtained.

Potassium Phosphate, Dibasic, Powder  
BAKER ANALYZED® A.C.S. Reagent

(dipotassium hydrogen phosphate)



Material No.: 3252-01  
Batch No.: 0000207436  
Manufactured Date: 2018/05/01  
Retest Date: 2025/04/29  
Revision No: 1

## Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ( $K_2HPO_4$ ) (by acidimetry)	$\geq 98.0 \%$	99.2
Insoluble Matter	$\leq 0.01 \%$	< 0.01
Loss on Drying at 105°C	$\leq 1.0 \%$	< 1.0
pH of 5% Solution at 25°C	8.5 – 9.6	9.1
Chloride (Cl)	$\leq 0.003 \%$	< 0.003
Fluoride (F)	$\leq 0.001 \%$	< 0.001
Nitrogen Compounds (as N)	$\leq 0.001 \%$	< 0.001
Sulfate ( $SO_4$ )	$\leq 0.005 \%$	< 0.005
Trace Impurities – Iron (Fe)	$\leq 0.001 \%$	< 0.001
Sodium (Na)	$\leq 0.05 \%$	< 0.05
Trace Impurities – Arsenic (As)	$\leq 1.000 \text{ ppm}$	< 1.000
Trace Impurities – ACS – Heavy Metals (as Pb)	$\leq 5 \text{ ppm}$	< 5
Trace Impurities – Lead (Pb)	$\leq 5.000 \text{ ppm}$	< 5.000
Color (APHA), For Information Only		5

For Laboratory, Research or Manufacturing Use  
Meets Reagent Specifications for testing USP/NF monographs

Country of Origin: US  
Packaging Site: Paris Mfg Ctr & DC



Phillipsburg, NJ 9001:2015, FSSC22000  
Paris, KY 9001:2008  
Mexico City, Mexico 9001:2008  
Gliwice, Poland 9001:2015, 13485:2012  
Selangor, Malaysia 9001:2008  
Dehradun, India, 9001:2008, 14001:2004, 13485:2003  
Mumbai, India, 9001:2015, 17025:2005  
Panoli, India 9001:2015

*James Ethier*  
Jamie Ethier  
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700  
Avantor Performance Materials, LLC  
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

W2918  
W3001  
rec. 06/06/22  
exp. 06/06/27

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## Chem-Impex International, Inc.

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**E-mail:** sales@chemimpex.com  
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935 Dillon Drive  
Wood Dale, IL 60191

**Fax:** (630) 766-2218  
**Web site:** www.chemimpex.com  
**Manufacturing site:**  
825 Dillon Drive  
Wood Dale, IL 60191

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### Certificate of Analysis

<b>Catalogue Number</b>	01237
<b>Product</b>	<b>Magnesium chloride hexahydrate</b>
<b>Lot Number</b>	002251-03319 Magnesium chloride•6H <sub>2</sub> O
<b>CAS Number</b>	7791-18-6
<b>Molecular Formula</b>	MgCl <sub>2</sub> •6H <sub>2</sub> O
<b>Molecular Weight</b>	203.3

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<b>Appearance</b>	Colorless crystals, very deliquescent
<b>Heavy Metals</b>	< 5 ppm
<b>Anion</b>	Nitrate : < 0.001% Phosphate : < 5 ppm Sulfate : < 0.002%
<b>Cation</b>	Ammonium : < 0.002% Barium : < 0.005% Calcium : 0.0006% Iron : < 5 ppm Manganese : 1.8 ppm Potassium : 0.0006% Sodium : 0.0008% Strontium : 0.0015%
<b>Insoluble material</b>	0.0025%
<b>Assay by titration</b>	100.29%
<b>Grade</b>	ACS reagent
<b>Storage</b>	Store at RT
<b>Country of Origin</b>	India

## ***Certificate of Analysis***

**Catalog Number: 01237**

**Lot Number: 002251-03319**

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**Remarks**

See material safety data sheet for additional information

For laboratory use only

**The foregoing is a copy of the Certificate of Analysis as provided by our supplier**



**Bala Kumar**  
**Quality Control Manager**

# Certificate Of Analysis



W 3058

Re. 10/19/23 12

Date of Release: 1/27/2023

Name: **Sodium Carbonate, Anhydrous**

Powder, ACS

Item No: **SX0395 All Sizes**

Lot / Batch No: **2023012653**

Country of Origin: **India**

Item	Specifications	Analysis
Assay (calculated on dried substance)	99.5% min.	100.2%
Calcium (Ca)	0.03% max.	0.004%
Chloride (Cl)	0.001% max.	<0.001%
Color	White	Passes Test
Form	Powder	Passes Test
Heavy metals (by ICP-OES)	5 ppm max.	<5 ppm
Insoluble Matter	0.01% max.	0.003%
Iron (Fe)	5 ppm max.	<5 ppm
Loss on heating at 285C	1.0% max.	0.1%
Magnesium (Mg)	0.005% max.	0.0008%
Phosphate (PO <sub>4</sub> )	0.001% max.	<0.001%
Potassium (K)	0.005% max.	0.003%
Silica (SiO <sub>2</sub> )	0.005% max.	<0.005%
Sulfur compounds (as SO <sub>4</sub> )	0.003% max.	<0.003%

Joe Schoellkopf

Quality Control Manager

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EMD Millipore Corporation

400 Summit Drive  
Burlington, MA 01803  
U.S.A.

Form number: 00005624CA, Rev. 2.0



## Certificate of Analysis

1 Reagent Lane  
Fair Lawn, NJ 07410  
201.796.7100 tel  
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System  
Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	P188	Quality Test / Release Date	08/12/2019
Lot Number	194664		
Description	POTASSIUM DICHROMATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Aug/2024
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		
Chemical Comment			

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Fine, orange-red crystals
ASSAY	%	>= 99	99.2
CALCIUM	%	<= 0.003	<0.003
CHLORIDE	%	<= 0.001	<0.001
LOSS ON DRYING @ 105 C	%	<= 0.05	<0.05
SULFATE (SO4)	%	<= 0.005	<0.005
INSOLUBLE MATTER	%	<= 0.005	0.003
IRON (Fe)	%	<= 0.001	<0.001
SODIUM (Na)	%	<= 0.02	<0.02
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST

*Jerusa Bailey-Wyche*

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.  
If there are any questions with this certificate, please call at (800) 227-6701.

\*Based on suggested storage condition.



Acetone

BAKER RESI-ANALYZED® Reagent

For Organic Residue Analysis

Avantor™



Material No.: 9254-03

Batch No.: 23H1462005

Manufactured Date: 2023-07-26

Expiration Date: 2026-07-25

Revision No.: 0

## Certificate of Analysis

Test	Specification	Result
Assay ((CH <sub>3</sub> ) <sub>2</sub> CO) (by GC, corrected for water)	≥ 99.4 %	99.7 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titration Acid (μeq/g)	≤ 0.3	0.1
Titration Base (μeq/g)	≤ 0.6	< 0.1
Water (H <sub>2</sub> O)	≤ 0.5 %	0.3 %
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1

For Laboratory, Research, or Manufacturing Use  
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA

Packaging Site: Phillipsburg Mfg Ctr & DC

Recd by RP on 8/13/24

E 3788

Ken Koehnlein  
Sr. Manager, Quality Assurance

Sulfuric Acid

BAKER INSTRA-ANALYZED® Reagent

For Trace Metal Analysis

Low Selenium

avantor™



Material No.: 9673-33

Batch No.: 22D0862014

Manufactured Date: 2022-02-23

Retest Date: 2027-02-22

Revision No.: 0

## Certificate of Analysis

Test	Specification	Result
ACS – Assay (H <sub>2</sub> SO <sub>4</sub> )	95.0 – 98.0 %	96.5 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Substances Reducing Permanganate (as SO <sub>2</sub> )	≤ 2 ppm	< 2 ppm
Ammonium (NH <sub>4</sub> )	≤ 1 ppm	< 1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO <sub>3</sub> )	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO <sub>4</sub> )	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities – Aluminum (Al)	≤ 30.0 ppb	1.7 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	< 0.2 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	2.0 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 ppb	0.6 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Nickel (Ni)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se)	≤ 50.0 ppb	12.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	4.4 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

Sulfuric Acid  
BAKER INSTRA-ANALYZED® Reagent  
For Trace Metal Analysis  
Low Selenium



Material No.: 9673-33  
Batch No.: 22D0862014

Test	Specification	Result
Trace Impurities – Sodium (Na)	$\leq 500.0$ ppb	6.2 ppb
Trace Impurities – Strontium (Sr)	$\leq 5.0$ ppb	< 0.2 ppb
Trace Impurities – Tin (Sn)	$\leq 5.0$ ppb	< 0.8 ppb
Trace Impurities – Zinc (Zn)	$\leq 5.0$ ppb	0.6 ppb

For Laboratory, Research, or Manufacturing Use

Country of Origin: USA  
Packaging Site: Phillipsburg Mfg Ctr & DC

A handwritten signature in cursive script that reads 'Jamie Ethier'.  
Jamie Ethier  
Vice President Global Quality

Hydrochloric Acid, 36.5–38.0%  
BAKER INSTRA-ANALYZED® Reagent  
For Trace Metal Analysis



MS947 MS948 MS949  
MS950 MS951 MS952

Material No.: 9530-33  
Batch No.: 22G2862015  
Manufactured Date: 2022-06-15  
Retest Date: 2027-06-14  
Revision No.: 0

## Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid–base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl <sub>2</sub> )	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO <sub>4</sub> )	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO <sub>4</sub> )	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO <sub>3</sub> )	≤ 0.8 ppm	0.3 ppm
Ammonium (NH <sub>4</sub> )	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5–38.0%  
BAKER INSTRA-ANALYZED® Reagent  
For Trace Metal Analysis

 **avantor™**



Material No.: 9530-33  
Batch No.: 22G2862015

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%

BAKER INSTRA-ANALYZED® Reagent

For Trace Metal Analysis



Material No.: 9530-33  
Batch No.: 22G2862015

Test	Specification	Result
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For Laboratory, Research, or Manufacturing Use  
Product Information (not specifications):  
Appearance (clear, fuming liquid)  
Meets ACS Specifications  
Storage Condition: Store below 25 °C.

Country of Origin: USA  
Packaging Site: Phillipsburg Mfg Ctr & DC

A handwritten signature in cursive script that reads 'Jamie Ethier'.

Jamie Ethier  
Vice President Global Quality

Nitric Acid 69%  
CMOS

avantor™



MS954 MS955 MS956  
MS957 MS958

Material No.: 9606-03  
Batch No.: 24D1062002  
Manufactured Date: 2024-03-26  
Retest Date: 2029-03-25  
Revision No.: 0

## Certificate of Analysis

Test	Specification	Result
Assay (HNO <sub>3</sub> )	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO <sub>4</sub> )	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO <sub>4</sub> )	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%  
CMOS



Material No.: 9606-03  
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>



Nitric Acid 69%  
CMOS



Material No.: 9606-03  
Batch No.: 24D1062002

Test	Specification	Result
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For Microelectronic Use

Country of Origin: USA  
Packaging Site: Phillipsburg Mfg Ctr & DC

A handwritten signature in cursive script that reads 'J. Croak'.

Jamie Croak  
Director Quality Operations, Bioscience Production

W 2979

Rec: 12/09/22

exp. 12/09/27

Product Name:

1,5-Diphenylcarbazide - ACS reagent

Product Number:

259225

Batch Number:

MKCR6636

Brand:

SIAL

CAS Number:

140-22-7

MDL Number:

MFCD00003013

Formula:

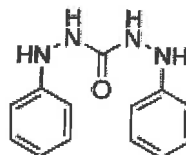
C<sub>13</sub>H<sub>14</sub>N<sub>4</sub>O

Formula Weight:

242.28 g/mol


Quality Release Date:

02 JUN 2022



## Certificate of Analysis

Test	Specification	Result
Appearance (Color)	Conforms to Requirements	Pink
Off-White to Pink, Light Purple or Tan		
Appearance (Form)	Powder or Chunks	Powder
Melting Point	173.0 - 176.0 °C	173.0 °C
Infrared Spectrum	Conforms to Structure	Conforms
Residue on ignition (Ash)	≤ 0.05 %	0.01 %
15 minutes, 800 Degrees Celsius		
Solubility	Pass	Pass
Sensitivity Test	Pass	Pass
Meets ACS Requirements	Current ACS Specification	Conforms



Larry Coers, Director  
Quality Control  
Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.





# Certificate of Analysis



## Sodium Hydroxide (Pellets)

**Material:** 0583  
**Grade:** ACS GRADE  
**Batch Number:** 23B1556310

Chemical Formula: NaOH  
Molecular Weight: 40  
CAS #: 1310-73-2  
Appearance:

Manufacture Date: 12/14/2022  
Expiration Date: 12/31/2025

Storage: Room Temperature

Pellets

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Calcium	<= 0.005 %	<0.005 %	PASS
Chloride	<= 0.005 %	0.002 %	PASS
Heavy Metals	<= 0.002 %	<0.002 %	PASS
Iron	<= 0.001 %	<0.001 %	PASS
Magnesium	<= 0.002 %	<0.002 %	PASS
Mercury	<= 0.1 ppm	<0.1 ppm	PASS
Nickel	<= 0.001 %	<0.001 %	PASS
Nitrogen Compounds	<= 0.001 %	<0.001 %	PASS
Phosphate	<= 0.001 %	<0.001 %	PASS
Potassium	<= 0.02 %	<0.02 %	PASS
Purity	>= 97.0 %	99.2 %	PASS
Sodium Carbonate	<= 1.0 %	0.5 %	PASS
Sulfate	<= 0.003 %	<0.003 %	PASS

Internal ID #: 710

### Signature

We certify that this batch conforms to the specifications listed.

This document has been electronically produced and is valid without a signature.

Leona Edwardson, Quality Control Sr. Manager - Solon  
VWR Chemicals, LLC.  
28600 Fountain Parkway, Solon OH 44139 USA

### Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.



## Sodium Hydroxide (Pellets)

**Material:** 0583  
**Grade:** ACS GRADE  
**Batch Number:** 23B1556310

Chemical Formula: NaOH  
Molecular Weight: 40  
CAS #: 1310-73-2  
Appearance:

Manufacture Date: 12/14/2022  
Expiration Date: 12/31/2025

Storage: Room Temperature

Pellets

Spec Set: 0583ACS

Internal ID #: 710

### Signature

We certify that this batch conforms to the specifications listed.

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Leona Edwardson, Quality Control Sr. Manager - Solon  
VWR Chemicals, LLC.  
28600 Fountain Parkway, Solon OH 44139 USA

### Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.



PERCENT SOLID

Supervisor: Iwona  
Analyst: jignesh  
Date: 10/23/2024

OVENTEMP IN Celsius(°C): 107  
Time IN: 16:40  
In Date: 10/21/2024  
Weight Check 1.0g: 1.00  
Weight Check 10g: 10.00  
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103  
Time OUT: 08:15  
Out Date: 10/22/2024  
Weight Check 1.0g: 1.00  
Weight Check 10g: 10.00  
BalanceID: M SC-4  
Thermometer ID: % SOLID- OVEN

QC:LB133030

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
P4416-01	A0BD7	1	1.15	8.81	9.96	8.6	84.6	
P4416-02	A0BD8	2	1.12	8.61	9.73	7.33	72.1	
P4416-03	A0BD8MS	3	1.12	8.61	9.73	7.33	72.1	
P4416-04	A0BD8MSD	4	1.12	8.61	9.73	7.33	72.1	
P4467-01	TP-1	5	1.15	8.84	9.99	9.17	90.7	
P4467-02	TP-1-EPH	6	1.17	8.60	9.77	8.89	89.8	
P4467-03	TP-1-VOC	7	1.15	8.57	9.72	8.87	90.1	
P4468-01	ETGI-331	8	1.00	1.00	2.00	2.00	100.0	CONCRETE sample
P4468-03	ETGI-329	9	1.15	8.82	9.97	9.35	93.0	
P4468-05	ETGI-345	10	1.12	8.75	9.87	9.11	91.3	
P4469-01	16-PIPE	11	1.00	1.00	2.00	2.00	100.0	wipe sample
P4469-02	21-PIPE	12	1.00	1.00	2.00	2.00	100.0	wipe sample
P4469-03	32-PIPE	13	1.00	1.00	2.00	2.00	100.0	wipe sample
P4469-04	34-PIPE	14	1.00	1.00	2.00	2.00	100.0	wipe sample
P4470-01	CL-01-102124	15	1.12	8.75	9.87	9.39	94.5	
P4470-02	CL-01-102124-E2	16	1.12	8.76	9.88	9.36	94.1	
P4471-01	B-180-SB01	17	1.18	8.59	9.77	8.29	82.8	
P4471-02	B-180-SB02	18	1.16	8.80	9.96	5.49	49.2	
P4472-01	BP-F-28	19	1.16	8.46	9.62	8.75	89.7	
P4472-02	BP-F-28-VOC	20	1.18	8.45	9.63	8.92	91.6	
P4472-03	BP-F-28-EPH	21	1.15	8.64	9.79	8.94	90.2	
P4472-05	BP-F-6	22	1.18	8.58	9.76	9.00	91.1	
P4472-06	BP-F-6-VOC	23	1.15	8.83	9.98	9.31	92.4	
P4472-07	BP-F-6-EPH	24	1.16	8.83	9.99	9.35	92.8	

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

# WORKLIST(Hardcopy Internal Chain)

WorkList Name : %1-102124      WorkList ID : 184616      Department : Wet-Chemistry      Date : 10-21-2024 08:15:10

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4416-01	A0BD7	Solid	Percent Solids	Cool 4 deg C	USEP04	Q11	10/09/2024	Chemtech -SO
P4416-02	A0BD8	Solid	Percent Solids	Cool 4 deg C	USEP04	Q11	10/15/2024	Chemtech -SO
P4416-03	A0BD8MS	Solid	Percent Solids	Cool 4 deg C	USEP04	Q11	10/15/2024	Chemtech -SO
P4416-04	A0BD8MSD	Solid	Percent Solids	Cool 4 deg C	USEP04	Q11	10/15/2024	Chemtech -SO
P4467-01	TP-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	K41	10/21/2024	Chemtech -SO
P4467-02	TP-1-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	K41	10/21/2024	Chemtech -SO
P4467-03	TP-1-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	K41	10/21/2024	Chemtech -SO
P4468-01	ETGI-331	Solid	Percent Solids	Cool 4 deg C	PSEG03	K51	10/21/2024	Chemtech -SO
P4468-03	ETGI-329	Solid	Percent Solids	Cool 4 deg C	PSEG03	K51	10/21/2024	Chemtech -SO
P4468-05	ETGI-345	Solid	Percent Solids	Cool 4 deg C	PSEG03	K51	10/21/2024	Chemtech -SO
P4469-01	16-PIPE	Solid	Percent Solids	Cool 4 deg C	PSEG03	K61	10/21/2024	Chemtech -SO
P4469-02	21-PIPE	Solid	Percent Solids	Cool 4 deg C	PSEG03	K61	10/21/2024	Chemtech -SO
P4469-03	32-PIPE	Solid	Percent Solids	Cool 4 deg C	PSEG03	K61	10/21/2024	Chemtech -SO
P4469-04	34-PIPE	Solid	Percent Solids	Cool 4 deg C	PSEG03	K61	10/21/2024	Chemtech -SO
P4470-01	CL-01-102124	Solid	Percent Solids	Cool 4 deg C	PSEG05	K51	10/21/2024	Chemtech -SO
P4470-02	CL-01-102124-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	K51	10/21/2024	Chemtech -SO
P4471-01	B-180-SB01	Solid	Percent Solids	Cool 4 deg C	PORT06	J61	10/19/2024	Chemtech -SO
P4471-02	B-180-SB02	Solid	Percent Solids	Cool 4 deg C	PORT06	J61	10/20/2024	Chemtech -SO
P4472-01	BP-F-28	Solid	Percent Solids	Cool 4 deg C	PSEG03	K51	10/21/2024	Chemtech -SO
P4472-02	BP-F-28-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	K51	10/21/2024	Chemtech -SO
P4472-03	BP-F-28-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	K51	10/21/2024	Chemtech -SO

Date/Time 10/21/24 15:35      Date/Time 10/21/24 17:10  
 Raw Sample Received by: 1060C      Raw Sample Received by: CL SW  
 Raw Sample Relinquished by: CL SW      Raw Sample Relinquished by: CL SW

# WORKLIST(Hardcopy Internal Chain)

8133030

WorkList Name : %1-102124      WorkList ID : 184616      Department : Wet-Chemistry      Date : 10-21-2024 08:15:10

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4472-05	BP-F-6	Solid	Percent Solids	Cool 4 deg C	PSEG03	K51	10/21/2024	Chemtech -SO
P4472-06	BP-F-6-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	K51	10/21/2024	Chemtech -SO
P4472-07	BP-F-6-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	K51	10/21/2024	Chemtech -SO

Date/Time 10/21/24 15:35  
 Raw Sample Received by: sl wdc  
 Raw Sample Relinquished by: sl wdc

Date/Time 10/21/24 17:10  
 Raw Sample Received by: sl wdc  
 Raw Sample Relinquished by: sl wdc



# SHIPPING DOCUMENTS



CLIENT INFORMATION				CLIENT PROJECT INFORMATION				CLIENT BILLING INFORMATION									
REPORT TO BE SENT TO: COMPANY: GANNETT FLEMING ADDRESS: 1010 ADAMS AVENUE CITY: AUDUBON STATE: NJ ZIP: 19403 ATTENTION: JOE KRUPANSKY PHONE: 610-301-8342 FAX:				PROJECT NAME: AMTRAK'S REPLACEMENT OF SAWTOOTH BRIDGES PROJECT NO.: 9500000878 LOCATION: KEARNY, NJ PROJECT MANAGER: JOE KRUPANSKY e-mail: QAQC@bemsys.com PHONE: 610-301-8342 FAX:				BILL TO: CHEMTECH PO#: ADDRESS: 284 SHEFFIELD ST CITY: MOUNTAINSIDE STATE: NJ ZIP: 07092 ATTENTION: SAMANTHA BEADLEY PHONE: 908-728-3148 ANALYSIS									
DATA TURNAROUND INFORMATION				DATA DELIVERABLE INFORMATION													
FAX (RUSH) _____ DAYS* HARDCOPY (DATA PACKAGE): 10 DAYS* EDD: 10 DAYS* *TO BE APPROVED BY CHEMTECH STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS				<input type="checkbox"/> Level 1 (Results Only) <input type="checkbox"/> Level 4 (QC + Full Raw Data) <input type="checkbox"/> Level 2 (Results + QC) <input checked="" type="checkbox"/> NJ Reduced <input type="checkbox"/> US EPA CLP <input type="checkbox"/> Level 3 (Results + QC) <input type="checkbox"/> NYS ASP A <input type="checkbox"/> NYS ASP B + Raw Data <input type="checkbox"/> Other _____ <input type="checkbox"/> EDD FORMAT BEM EDD				1 TCL VOC+10 2 TCL PAH 3 PCBs 4 TAL METALS 5 EPA 6 CR (VI) 7 CR (III) 8 9									
CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES									COMMENTS ← Specify Preservatives A-HCl D-NaOH B-HNO3 E-ICE C-H2SO4 F-OTHER
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9	
1.	B-180-SB01	S		✓	10/19/24	200	4	x	x	x	x	x	x	x			5
2.	B-180-SB02	S		✓	10/20/24	1245	4	x	x	x	x	x	x	x			7
3.	TB100824	W			10/08/24	16/08/24	2	x									
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY																	
RELINQUISHED BY SAMPLER: 1. [Signature]		DATE/TIME: 10/21/24 1240		RECEIVED BY: 1. [Signature]		Conditions of bottles or coolers at receipt: <input type="checkbox"/> COMPLIANT <input type="checkbox"/> NON COMPLIANT <input type="checkbox"/> COOLER TEMP 23.0 °C Comments: JH. Gunt #1											
RELINQUISHED BY SAMPLER: 2.		DATE/TIME:		RECEIVED BY: 2. [Signature]													
RELINQUISHED BY SAMPLER: 3.		DATE/TIME:		RECEIVED BY: 3.		Page ____ of ____ CLIENT: <input type="checkbox"/> Hand Delivered <input type="checkbox"/> Other _____ CHEMTECH: <input type="checkbox"/> Picked Up <input type="checkbox"/> Field Sampling Shipment Complete <input type="checkbox"/> YES <input type="checkbox"/> NO											

---

**To:** jkrupansky@gfnet.com  
**Subject:** P4471

Good afternoon,

Just informing you P4471 samples were received out of temp.

Best Regards,



**Yazmeen Gomez**  
Sr. Project Manager, CHEMTECH Laboratory  
**An Alliance Technical Group Company**  
**Main:** 908-789-8900  
**Direct:** 908-728-3147  
**Address:** 284 Sheffield St, Ste 1, Mountainside, NJ 07092  
[www.alliancetg.com](http://www.alliancetg.com)



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

## Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (L-A-B)	L2219
Maine	2024021
Maryland	296
New Hampshire	255423
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488


## LOGIN REPORT/SAMPLE TRANSFER

<b>Order ID :</b> P4471	<b>PORT06</b>	<b>Order Date :</b> 10/21/2024 1:01:00 PM	<b>Project Mgr :</b> Yazmeen
<b>Client Name :</b> Portal Partners Tri-Venture		<b>Project Name :</b> Amtrak Sawtooth Bridges 2	<b>Report Type :</b> NJ Reduced
<b>Client Contact :</b> Joseph Krupansky		<b>Receive DateTime :</b> 10/21/2024 12:40:00 PM	<b>EDD Type :</b> EXCEL NJCLEANUP
<b>Invoice Name :</b> Portal Partners Tri-Venture		<b>Purchase Order :</b>	<b>Hard Copy Date :</b>
<b>Invoice Contact :</b> Joseph Krupansky			<b>Date Signoff :</b> 10/21/2024 2:10:17 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
P4471-01	B-180-SB01	Solid	10/19/2024	14:00					
					VOC-TCLVOA-10		8260D		10 Bus. Days
P4471-02	B-180-SB02	Solid	10/20/2024	12:45					
					VOC-TCLVOA-10		8260D		10 Bus. Days
P4471-03	TB100824	Water	10/08/2024	00:00					
					VOC-TCLVOA-10		8260-Low		10 Bus. Days

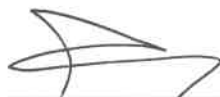
Relinquished By :

Date / Time :

  
10/24/24

Received By :

Date / Time :

  
10/25/24

Storage Area : VOA Refridgerator Room