

DATA REPORTING QUALIFIERS- INORGANIC

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

J	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).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	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
OR	Indicates the analyte’s concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
H	Sample Analysis Out Of Hold Time

LAB CHRONICLE

OrderID:	Q2400	OrderDate:	6/23/2025 4:35:00 PM
Client:	Portal Partners Tri-Venture	Project:	Amtrak Sawtooth Bridges 2025
Contact:	Joseph Krupansky	Location:	A42

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2400-01	B-156-SB01	SOIL			06/23/25 14:45	06/24/25	06/24/25 12:57	06/23/25
			Hexavalent Chromium	7196A				
			Trivalent Chromium	6010D			06/27/25 17:31	
Q2400-02	B-134-SB01	SOIL			06/23/25 14:50	06/24/25	06/24/25 12:58	06/23/25
			Hexavalent Chromium	7196A				
			Trivalent Chromium	6010D			06/27/25 17:36	



SAMPLE DATA

Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	06/23/25 14:45
Project:	Amtrak Sawtooth Bridges 2025	Date Received:	06/23/25
Client Sample ID:	B-156-SB01	SDG No.:	Q2400
Lab Sample ID:	Q2400-01	Matrix:	SOIL
		% Solid:	84.5

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Hexavalent Chromium	0.082	U	1	0.082	0.47	mg/Kg	06/24/25 09:00	06/24/25 12:57	7196A
Trivalent Chromium	10.6		1	0.59	0.59	mg/Kg		06/27/25 17:31	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:	06/23/25 14:50
Project:	Amtrak Sawtooth Bridges 2025	Date Received:	06/23/25
Client Sample ID:	B-134-SB01	SDG No.:	Q2400
Lab Sample ID:	Q2400-02	Matrix:	SOIL
		% Solid:	83

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Hexavalent Chromium	0.083	U	1	0.083	0.47	mg/Kg	06/24/25 09:00	06/24/25 12:58	7196A
Trivalent Chromium	31.3		1	0.60	0.60	mg/Kg		06/27/25 17:36	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

Initial and Continuing Calibration Verification

Client: Portal Partners Tri-Venture
Project: Amtrak Sawtooth Bridges 2025

SDG No.: Q2400
RunNo.: LB136245

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Hexavalent Chromium	mg/L	0.495	0.5	99	90-110	06/24/2025
Sample ID: CCV1 Hexavalent Chromium	mg/L	0.494	0.5	99	90-110	06/24/2025
Sample ID: CCV2 Hexavalent Chromium	mg/L	0.497	0.5	99	90-110	06/24/2025
Sample ID: CCV3 Hexavalent Chromium	mg/L	0.495	0.5	99	90-110	06/24/2025

Initial and Continuing Calibration Blank Summary

Client: Portal Partners Tri-Venture

SDG No.: Q2400

Project: Amtrak Sawtooth Bridges 2025

RunNo.: LB136245

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0029	0.01	06/24/2025
Sample ID: CCB1 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0029	0.01	06/24/2025
Sample ID: CCB2 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0029	0.01	06/24/2025
Sample ID: CCB3 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0029	0.01	06/24/2025

Preparation Blank Summary

Client: Portal Partners Tri-Venture

SDG No.: Q2400

Project: Amtrak Sawtooth Bridges 2025

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: PB168573BL							
Hexavalent Chromium	mg/Kg	< 0.2000	0.2000	U	0.07	0.4	06/24/2025

Matrix Spike Summary

Client:	Portal Partners Tri-Venture	SDG No.:	Q2400
Project:	Amtrak Sawtooth Bridges 2025	Sample ID:	Q2389-01
Client ID:	MH-J-IMS	Percent Solids for Spike Sample:	89

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	1380		0.078	U	1440	40	96		06/24/2025

Matrix Spike Summary

Client:	Portal Partners Tri-Venture	SDG No.:	Q2400
Project:	Amtrak Sawtooth Bridges 2025	Sample ID:	Q2389-01
Client ID:	MH-J-IMS	Percent Solids for Spike Sample:	89

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	42.1		0.078	U	44.9	2	94		06/24/2025

Matrix Spike Summary

Client:	Portal Partners Tri-Venture	SDG No.:	Q2400
Project:	Amtrak Sawtooth Bridges 2025	Sample ID:	Q2389-01
Client ID:	MH-J-IMS	Percent Solids for Spike Sample:	89

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	34.6		0.078	U	44.9	2	77		06/24/2025

Duplicate Sample Summary

Client: Portal Partners Tri-Venture Project: Amtrak Sawtooth Bridges 2025 Client ID: MH-J-IDUP	SDG No.: Q2400 Sample ID: Q2389-01 Percent Solids for Spike Sample: 89
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Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	+/-20	0.078	U	0.078	U	1	0		06/24/2025

Laboratory Control Sample Summary

Client: Portal Partners Tri-Venture

SDG No.: Q2400

Project: Amtrak Sawtooth Bridges 2025

Run No.: LB136245

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB168573BS							
Hexavalent Chromium	mg/Kg	20	20.0		100	1	84-110	06/24/2025



RAW DATA

Analytical Summary Report

Analysis Method: 7196A

ANALYST: rubina

Parameter: ~~Hexavalent Chromium~~

SUPERVISOR REVIEW BY: Iwona

Run Number: LB136245

pH Meter ID: WC pH Meter-1

Reagent/Standard	Lot/Log #
hexavalent chromium color reagent	WP113606
5N sulfuric acid	WP112831
HNO3 Hex-Chrome, 5M	WP112830
Hexchrome Cleaning Solution	WP113087

Intercept: 0.0011

Slope: 0.7629

Regression: 0.99997

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	7.29	1.94	0.000	0.000	0.000	-0.00		06/24/2025	12:30
2	CAL2	0.01	1	100	100	7.36	1.86	0.000	0.009	0.009	0.010	0	06/24/2025	12:31
3	CAL3	0.025	1	100	100	7.39	1.90	0.000	0.021	0.021	0.026	4	06/24/2025	12:32
4	CAL4	0.05	1	100	100	7.42	1.88	0.000	0.040	0.040	0.050	0	06/24/2025	12:33
5	CAL5	0.1	1	100	100	7.36	1.99	0.000	0.079	0.079	0.102	2	06/24/2025	12:34
6	CAL6	0.5	1	100	100	7.37	1.90	0.000	0.378	0.378	0.494	-1.2	06/24/2025	12:35
7	CAL7	1	1	100	100	7.40	1.95	0.000	0.766	0.766	1.002	0.2	06/24/2025	12:36

Analytical Summary Report

Analysis Method: 7196A

ANALYST:rubina

Parameter: Hexavalent Chromium

SUPERVISOR REVIEW BY:Iwona

Run Number: LB136245

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	7.44	1.95	0.000	0.379	0.379	0.495	06/24/2025	12:37
2	ICB		1	100	100	7.34	1.88	0.000	0.000	0.000	-0.001	06/24/2025	12:38
3	CCV1	0.5	1	100	100	7.42	1.92	0.000	0.378	0.378	0.494	06/24/2025	12:39
4	CCB1		1	100	100	7.40	1.77	0.000	0.001	0.001	0.000	06/24/2025	12:40
5	RL Check	0.01	1	100	100	7.46	1.99	0.000	0.010	0.010	0.012	06/24/2025	12:41
6	PB168573BL		1	2.50	100	7.30	1.83	0.000	0.001	0.001	0.000	06/24/2025	12:42
7	PB168573BS	20	1	2.50	100	7.42	1.85	0.000	0.382	0.382	0.499	06/24/2025	12:43
8	Q2384-01		1	2.57	100	7.40	1.90	0.002	0.002	0.000	-0.001	06/24/2025	12:44
9	Q2386-01		1	2.51	100	7.36	2.06	0.035	0.036	0.001	0.000	06/24/2025	12:45
10	Q2388-01		1	2.54	100	7.60	2.16	0.000	0.000	0.000	-0.001	06/24/2025	12:46
11	Q2389-01		1	2.53	100	7.36	2.04	0.000	0.000	0.000	-0.001	06/24/2025	12:47
12	Q2389-01DU		1	2.53	100	7.39	2.05	0.000	0.000	0.000	-0.001	06/24/2025	12:48
13	Q2389-01MS	40	2	2.53	100	7.39	2.02	0.000	0.299	0.299	0.390	06/24/2025	12:49
14	Q2389-01MS	1284	40	2.54	100	7.43	2.04	0.000	0.598	0.598	0.782	06/24/2025	12:50
15	Q2389-01MS	40	2	2.54	100	7.36	2.14	0.000	0.364	0.364	0.476	06/24/2025	12:51
16	CCV2	0.5	1	100	100	7.38	1.90	0.000	0.380	0.380	0.497	06/24/2025	12:52
17	CCB2		1	100	100	7.22	1.72	0.000	0.001	0.001	0.000	06/24/2025	12:53
18	Q2394-01		1	2.51	100	7.67	2.14	0.000	0.001	0.001	0.000	06/24/2025	12:54
19	Q2399-01		1	2.57	100	7.33	2.28	0.003	0.010	0.007	0.008	06/24/2025	12:55
20	Q2399-05		1	2.52	100	7.59	2.06	0.001	0.002	0.001	0.000	06/24/2025	12:56
21	Q2400-01		1	2.54	100	7.52	2.11	0.020	0.021	0.001	0.000	06/24/2025	12:57
22	Q2400-02		1	2.54	100	7.40	2.19	0.004	0.005	0.001	0.000	06/24/2025	12:58
23	CCV3	0.5	1	100	100	7.49	1.89	0.000	0.379	0.379	0.495	06/24/2025	12:59
24	CCB3		1	100	100	7.39	1.91	0.000	0.001	0.001	0.000	06/24/2025	13:00

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

SDG No : N/A

Matrix : SOIL

Pipette ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#3

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

Weigh By : RM

Start Digest Date: 06/24/2025 Time : 09:00 Temp : 90 °C

End Digest Date: 06/24/2025 Time : 10:00 Temp : 94 °C

11 batch 06/24/2025 10:25 90 °C
06/24/2025 11:25 94 °C

Digestion tube ID : M6054

Block Thermometer ID : WC-Block#1

Filter paper ID : 400213

Prep Technician Signature: RM

pH Meter ID : WC pH meter-1

Supervisor Signature: 12

Standardized Name	MLS USED	STD REF. # FROM LOG
PRE-DIGESTION SPIKE	2.0ML	WP111315
INSOLUBLE SPIKE	0.02GM	W2202
POST-DIGESTION SPIKE	2.0ML	WP111315
LCSS	1.0ML	WP111316
PBS003	50.ML	W3112

Chemical Used	ML/SAMPLE USED	Lot Number
MAGNESIUM CHLORIDE	0.4GM	W3152
PHOSPHATE BUFFER	0.5ML	WP112903
HEX. DIGESTION SOLN.	50.0ML	WP113608
5M HNO3	5-7ML	WP112830
5N H2SO4	1-3ML	WP112831
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
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Vol(ml)	Comment
CAL1	CAL1	2.5ML	W3112
CAL2	CAL2	0.2ML	WP113643
CAL3	CAL3	0.5ML	WP113643
CAL4	CAL4	1ML	WP113643
CAL5	CAL5	0.2ML	WP111315
CAL6	CAL6	1ML	WP111315
CAL7	CAL7	2.0ML	WP111315
ICV	ICV	1ML	WP111316
ICB	ICB	2.5ML	W3112
CCV	CCV	1ML	WP111315
CCB	CCB	2.5ML	W3112

Extraction Conformance/Non-Conformance Comments:

N/A

06/24/2025 12:14

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
PB168573BL	PBS573	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A
PB168573BS	LCS573	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2384-01	OK-01-6202025	2.57	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2386-01	SU-1-062025	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2388-01	TP-12	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2389-01	MH-J-I	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2389-01DUP	MH-J-IDUP	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2389-01MSPre	MH-J-IMSPRE	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2389-01MS2Ins	MH-J-IMS2INS	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2389-01MS3Post	MH-J-IMS3POST	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2394-01	MH-K/L	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2399-01	TP-13	2.57	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2399-05	EP-7	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2400-01	B-156-SB01	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
Q2400-02	B-134-SB01	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : HEX-06-24 WorkList ID : 190356 Department : Distillation Date : 06-24-2025 08:15:47

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2384-01	OK-01-6202025	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG05	D51	06/20/2025	7196A
Q2386-01	SU-1-062025	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	D51	06/20/2025	7196A
Q2388-01	TP-12	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	D51	06/20/2025	7196A
Q2389-01	MH-J-I	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	D51	06/20/2025	7196A
Q2394-01	MH-K/L	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	A21	06/23/2025	7196A
Q2399-01	TP-13	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	A41	06/23/2025	7196A
Q2399-05	EP-7	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	A41	06/23/2025	7196A
Q2400-01	B-156-SB01	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	A42	06/23/2025	7196A
Q2400-02	B-134-SB01	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	A42	06/23/2025	7196A

Date/Time 06/24/2025 08:20
 Raw Sample Received by: RM LWC
 Raw Sample Relinquished by: JP LWC

Date/Time 06/24/2025 10:45
 Raw Sample Received by: JP LWC
 Raw Sample Relinquished by: RM LWC

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB136245

Review By	rubina	Review On	6/24/2025 2:17:36 PM
Supervise By	Iwona	Supervise On	6/26/2025 3:41:50 PM
SubDirectory	LB136245	Test	Hexavalent Chromium
STD. NAME	STD REF.#		
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	WP113606,WP112831,WP112830,WP113087		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	06/24/25 12:30		rubina	OK
2	CAL2	CAL2	CAL	06/24/25 12:31		rubina	OK
3	CAL3	CAL3	CAL	06/24/25 12:32		rubina	OK
4	CAL4	CAL4	CAL	06/24/25 12:33		rubina	OK
5	CAL5	CAL5	CAL	06/24/25 12:34		rubina	OK
6	CAL6	CAL6	CAL	06/24/25 12:35		rubina	OK
7	CAL7	CAL7	CAL	06/24/25 12:36		rubina	OK
8	ICV	ICV	ICV	06/24/25 12:37		rubina	OK
9	ICB	ICB	ICB	06/24/25 12:38		rubina	OK
10	CCV1	CCV1	CCV	06/24/25 12:39		rubina	OK
11	CCB1	CCB1	CCB	06/24/25 12:40		rubina	OK
12	RL Check	RL Check	RL	06/24/25 12:41		rubina	OK
13	PB168573BL	PB168573BL	MB	06/24/25 12:42		rubina	OK
14	PB168573BS	PB168573BS	LCS	06/24/25 12:43		rubina	OK
15	Q2384-01	OK-01-6202025	SAM	06/24/25 12:44		rubina	OK
16	Q2386-01	SU-1-062025	SAM	06/24/25 12:45		rubina	OK
17	Q2388-01	TP-12	SAM	06/24/25 12:46		rubina	OK
18	Q2389-01	MH-J-I	SAM	06/24/25 12:47		rubina	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB136245

Review By	rubina	Review On	6/24/2025 2:17:36 PM
Supervise By	Iwona	Supervise On	6/26/2025 3:41:50 PM
SubDirectory	LB136245	Test	Hexavalent Chromium
STD. NAME	STD REF.#		
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	WP113606,WP112831,WP112830,WP113087		

19	Q2389-01DUP	MH-J-IDUP	DUP	06/24/25 12:48		rubina	OK
20	Q2389-01MSPre	MH-J-IMS	MS	06/24/25 12:49		rubina	OK
21	Q2389-01MS2Ins	MH-J-IMS	MS	06/24/25 12:50		rubina	OK
22	Q2389-01MS3Post	MH-J-IMS	MS	06/24/25 12:51		rubina	OK
23	CCV2	CCV2	CCV	06/24/25 12:52		rubina	OK
24	CCB2	CCB2	CCB	06/24/25 12:53		rubina	OK
25	Q2394-01	MH-K/L	SAM	06/24/25 12:54		rubina	OK
26	Q2399-01	TP-13	SAM	06/24/25 12:55		rubina	OK
27	Q2399-05	EP-7	SAM	06/24/25 12:56		rubina	OK
28	Q2400-01	B-156-SB01	SAM	06/24/25 12:57		rubina	OK
29	Q2400-02	B-134-SB01	SAM	06/24/25 12:58		rubina	OK
30	CCV3	CCV3	CCV	06/24/25 12:59		rubina	OK
31	CCB3	CCB3	CCB	06/24/25 13:00		rubina	OK

Prep Standard - Chemical Standard Summary

Order ID : Q2400

Test : Hexavalent Chromium,Percent Solids,Trivalent Chromium

Prepbatch ID : PB168573,

Sequence ID/Qc Batch ID: LB136245, LB136321,

Standard ID :

WP111315, WP111316, WP112830, WP112831, WP112903, WP113087, WP113606, WP113608,

Chemical ID :

E3944, M6041, M6151, M6158, W2202, W2651, W2652, W2979, W3112, W3113, W3152, W3163, W3168, W3206,



<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	WP111315	01/09/2025	07/09/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 01/09/2025
<u>FROM</u> 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	WP111316	01/09/2025	07/09/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 01/09/2025
<u>FROM</u> 0.14140gram of W2652 + 1000.00000ml of W3112 = 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>
1836	HNO3 Hex-Chrome, 5M	WP112830	04/25/2025	10/25/2025	Rubina Mughal	None	None	Iwona Zarych
								04/25/2025

FROM 320.00000ml of M6158 + 680.00000ml 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>
126	5N sulfuric acid	WP112831	04/25/2025	10/25/2025	Rubina Mughal	None	None	Iwona Zarych
								04/25/2025

FROM 140.00000ml of M6041 + 860.00000ml of W3112 = Final Quantity: 1.000 L

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	WP112903	05/01/2025	11/01/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Iwona Zarych
								05/01/2025

FROM 0.84500L of W3112 + 68.04000gram of W3206 + 87.09000gram of W3168 = 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	WP113087	05/15/2025	08/18/2025	Rubina Mughal	None	None	Iwona Zarych
								05/15/2025

FROM 182.00000ml of M6151 + 727.00000ml of W3112 + 91.00000ml of M6158 = 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>
114	hexavalent chromium color reagent	WP113606	06/20/2025	06/27/2025	Eman Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych 06/23/2025
<u>FROM</u> 0.25000gram of W2979 + 50.00000ml of E3944 = Final Quantity: 50.000 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	WP113608	06/23/2025	07/23/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Iwona Zarych 06/23/2025
<u>FROM</u> 120.00000gram of W3163 + 4.00000L of W3112 + 80.00000gram of W3113 = Final Quantity: 4000.000 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)	24H1462005	05/24/2027	06/20/2025 / RUPESH	05/14/2025 / RUPESH	E3944

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)	23D2462010	03/20/2028	08/16/2024 / mohan	08/16/2024 / mohan	M6041

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	08/18/2025	02/18/2025 / Sagar	01/15/2025 / Sagar	M6151

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	03/25/2029	03/10/2025 / Eman	02/02/2025 / Sagar	M6158

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

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

CHEMICAL RECEIPT LOG BOOK

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.	31390 / 1,5-Diphenylcarbazine	MKCR6636	12/09/2027	12/09/2022 / lwona	12/09/2022 / lwona	W2979

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

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	002126-2019-201	11/25/2029	11/25/2024 / lwona	11/25/2024 / lwona	W3152

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	24E3156178	09/30/2027	12/10/2024 / lwona	12/10/2024 / lwona	W3163

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	24H0856239	04/19/2028	01/03/2025 / Iwona	01/03/2025 / Iwona	W3168

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	MKCX1379	01/31/2029	04/29/2025 / Iwona	04/29/2025 / Iwona	W3206

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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ThermoFisher
S C I E N T I F I C

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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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.: 24H1462005

Manufactured Date: 2024-05-24

Expiration Date: 2027-05-24

Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ((CH ₃) ₂ CO) (by GC, corrected for water)	>= 99.4 %	99.8 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.2 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titration Acid (μeq/g)	<= 0.3	0.2
Titration Base (μeq/g)	<= 0.6	<0.1
Water (H ₂ O)	<= 0.5 %	0.2 %
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: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E3944

Jamie Croak
Director Quality Operations, Bioscience Production

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials LLC

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

avantor™



M 6041-4b
MS

Material No.: 9673-33
Batch No.: 23D2462010
Manufactured Date: 2023-03-22
Retest Date: 2028-03-20
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H ₂ SO ₄)	95.0 – 98.0 %	96.1 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Substances Reducing Permanganate (as SO ₂)	≤ 2 ppm	< 2 ppm
Ammonium (NH ₄)	≤ 1 ppm	1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO ₃)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO ₄)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities – Aluminum (Al)	≤ 30.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	8.5 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	0.5 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	1.3 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 ppb	0.8 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	< 0.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	31.5 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

 **avantorsm**

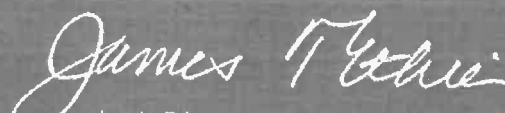


Material No.: 9673-33
Batch No.: 23D2462010

Test	Specification	Result
Trace Impurities - Sodium (Na)	≤ 500.0 ppb	5.4 ppb
Trace Impurities - Strontium (Sr)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.4 ppb

For Laboratory, Research, or Manufacturing Use

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


Jamie Ethier
Vice President Global Quality

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

 **avantor™**



M6151

R → 11/15/25

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 ₂)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO ₄)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO ₃)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH ₄)	≤ 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

 **avantorsm**



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™



R- 0210212025

m - 6158

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 ₃)	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 ₄)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 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

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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

 **avantorsTM**



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

Test	Specification	Result
------	---------------	--------

For Microelectronic Use

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



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:

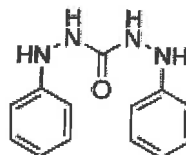
C₁₃H₁₄N₄O

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. 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.

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.

Chem-Impex International, Inc.

Tel: (630) 766-2112**E-mail:** sales@chemimpex.com**Shipping and Correspondence:**

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

Certificate of Analysis

Catalogue Number	01237
Lot Number	002126-2019-201
Product	Magnesium chloride hexahydrate

Magnesium chloride•6H₂O

CAS Number	7791-18-6
Molecular Formula	MgCl ₂ •6H ₂ O
Molecular Weight	203.3

Appearance	White crystals
Solubility	167 g in 100 mL water
Melting Point	~ 115 °C
Heavy Metals	4.393 ppm
Anion	Nitrate (NO ₃) : < 0.001% Phosphate (PO ₄) : < 5 ppm Sulfate (SO ₄) : < 0.002%
Cation	Ammonium (NH ₄) : < 0.002% Barium (Ba) : 0.005% Calcium (Ca) : 0.01% Iron (Fe) : 4.5 ppm Manganese (Mn) : 0.624 ppm Potassium (K) : 0.004% Sodium (Na) : 0.000003% Strontium (Sr) : 0.005%
Insoluble material	0.0021%
Assay by titration	100.83%
Grade	ACS reagent
Storage	Store at RT

Certificate of Analysis

Catalog Number: 01237

Lot Number: 002126-2019-201

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

A handwritten signature in black ink, appearing to read 'Bala Kumar', with a stylized flourish at the end.

Bala Kumar
Quality Control Manager



W3163 Rec. on 12/10/24 by IZ

Certificate of Analysis



Material BDH9284-2.5KG
Material Description BDH SODIUM CARB ANHYD ACS 2.5KG
Grade U S P REAGENT (ACS GRADE)

Batch 24E3156178
Reassay Date 09/30/2027
CAS Number 497-19-8
Molecular Formula Na₂CO₃
Molecular Mass 105.99

Date of Manufacture 09/01/2023
Storage Room Temperature
Material is hygroscopic. Protect from Moisture.
Additional Product Description:

Characteristics	Specifications	Measured Values
Appearance	Fine white granular powder	Fine white granular powder
Calcium	<= 0.03 %	0.003 %
Chloride	<= 0.001 %	0.0003 %
Heavy Metals (as Pb)	<= 0.0005 %	0.0001 %
Insolubles	<= 0.01 %	0.001 %
Iron	<= 0.0005 %	0.0001 %
Loss on Heating	<= 1.0 %	0.03 %
Magnesium	<= 0.005 %	0.001 %
Phosphate	<= 0.001 %	0.001 %
Potassium	<= 0.005 %	0.003 %
Purity	>= 99.5 %	100.0 %
Silica	<= 0.005 %	0.001 %
Sulfur Compounds	<= 0.003 %	0.002 %
Extra Description:	Meets Reagent Specifications for testing USP/NF monographs	

Internal ID #: 710

Signature	Additional Information
We certify that this batch conforms to the specifications listed above. 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	Analysis may have been rounded to significant digits in specification limits Product meets analytical specifications of the grades listed.



Material	BDH9266-500G
Material Description	BDH POTASS PHOSPHAT DBSC 500GM
Grade	ACS GRADE
Batch	24H0856239
Reassay Date	04/19/2028
CAS Number	7758-11-4
Molecular Formula	K ₂ HPO ₄
Molecular Mass	174.18
Date of Manufacture	04/19/2024
Storage	Room Temperature

Characteristics	Specifications	Measured Values
Appearance	Fine white crystalline powder	Fine white crystalline powder
Chloride	<= 0.003 %	0.002 %
Heavy Metals (as Pb)	<= 0.0005 %	<0.0005 %
Insolubles	<= 0.01 %	<0.01 %
Iron	<= 0.001 %	<0.001 %
Loss on Drying	<= 1.0 %	<0.5 %
Nitrogen Compounds	<= 0.001 %	<0.001 %
pH (5%, Water) @25C	8.5 - 9.6	8.8
Purity	>= 98.0 %	99.1 %
Sodium	<= 0.05 %	<0.05 %
Sulfate	<= 0.005 %	<0.002 %
CUSTOMER PART # BDH9266-500G		

Internal ID #: 793

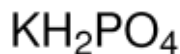
Signature	Additional Information
We certify that this batch conforms to the specifications listed above. This document has been electronically produced and is valid without a signature. Leona Edwardson, Quality Control Sr. Manager - Solon VWR Chemicals, LLC. 28600 Fountain Parkway, Solon OH 44139 USA	Analysis may have been rounded to significant digits in specification limits Product meets analytical specifications of the grades listed.

Certificate of Analysis

Product Name:

Potassium phosphate monobasic - ACS reagent, ≥99.0%

Product Number: P0662
Batch Number: MKCX1379
Brand: SIGALD
CAS Number: 7778-77-0
MDL Number: MFCD00011401
Formula: H₂KO₄P
Formula Weight: 136.09 g/mol
Quality Release Date: 27 JAN 2025
Recommended Retest Date: JAN 2029



Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder or Crystals	Crystals
Assay	≥ 99.0 %	99.9 %
Insoluble Matter	≤ 0.01 %	< 0.01 %
Loss on Drying	≤ 0.2 %	< 0.1 %
At 105°C		
pH	4.1 - 4.5	4.5
(c = 5%, 25 deg C)		
Chloride Content	≤ 0.001 %	< 0.001 %
Sulfate (SO ₄)	≤ 0.003 %	< 0.003 %
Heavy Metals	≤ 0.001 %	< 0.001 %
by ICP		
Iron (Fe)	≤ 0.002 %	< 0.001 %
Sodium (Na)	≤ 0.005 %	< 0.001 %
Recommended Retest Period	-----	-----
4 Years		



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. 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.



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 6/25/2025

OVENTEMP IN Celsius(°C): 108
Time IN: 17:10
In Date: 06/24/2025
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: 06/25/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB136243

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
Q2392-01	S-1	1	1.15	10.05	11.2	10.42	92.2	
Q2392-02	S-1A	2	1.18	10.49	11.67	10.97	93.3	
Q2393-01	PARK AVE -1	3	1.17	10.34	11.51	9.78	83.3	
Q2393-02	PARK AVE -1	4	1.15	10.07	11.22	9.4	81.9	
Q2393-03	PARK AVE -2	5	1.13	10.85	11.98	10.19	83.5	
Q2393-04	PARK AVE -2	6	1.19	10.26	11.45	9.55	81.5	
Q2393-05	PARK AVE -3	7	1.12	10.25	11.37	10.00	86.6	
Q2393-06	PARK AVE -3	8	1.15	10.84	11.99	10.5	86.3	
Q2393-07	PARK AVE -4	9	1.16	10.70	11.86	10.54	87.7	
Q2393-08	PARK AVE -4	10	1.19	9.86	11.05	9.84	87.7	
Q2393-09	PARK AVE -5	11	1.15	10.84	11.99	11.05	91.3	
Q2393-10	PARK AVE -5	12	1.15	9.95	11.1	9.95	88.4	
Q2393-11	PARK AVE -6	13	1.19	10.23	11.42	10.07	86.8	
Q2393-12	PARK AVE -6	14	1.17	10.52	11.69	10.4	87.7	
Q2394-01	MH-K/L	15	1.18	10.49	11.67	10.23	86.3	
Q2394-02	MH-K/L EPH	16	1.19	9.97	11.16	9.58	84.2	
Q2394-03	MH-K/L VOC	17	1.13	10.86	11.99	10.66	87.8	
Q2394-04	MH-K/L	18	1.18	10.49	11.67	10.23	86.3	
Q2396-01	245F53-1-1	19	1.00	1.00	2.00	2.00	100.0	oilc
Q2396-02	245F53-1-2	20	1.00	1.00	2.00	2.00	100.0	oilc
Q2396-03	LAW-25-1A	21	1.00	1.00	2.00	2.00	100.0	oilc
Q2396-04	LAW-25-1B	22	1.00	1.00	2.00	2.00	100.0	oilc
Q2396-05	LAW-25-2A	23	1.00	1.00	2.00	2.00	100.0	oilc
Q2396-06	LAW-25-2B	24	1.00	1.00	2.00	2.00	100.0	oilc
Q2396-07	LAW-25-3A	25	1.00	1.00	2.00	2.00	100.0	oilc
Q2396-08	LAW-25-3B	26	1.00	1.00	2.00	2.00	100.0	oilc
Q2398-01	M00-25-0169	27	1.00	1.00	2.00	2.00	100.0	oil sample
Q2398-03	M00-25-0179	28	1.19	10.07	11.26	7.63	64.0	



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 6/25/2025

OVENTEMP IN Celsius(°C): 108
Time IN: 17:10
In Date: 06/24/2025
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: 06/25/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB136243

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
Q2398-04	M00-25-0179-E2	29	1.19	10.25	11.44	7.68	63.3	
Q2398-06	ARS20-0036	30	1.19	10.53	11.72	10.47	88.1	
Q2398-07	ARS20-0036-E2	31	1.12	10.77	11.89	10.9	90.8	
Q2399-01	TP-13	32	1.13	10.84	11.97	10.27	84.3	
Q2399-02	TP-13-EPH	33	1.19	10.36	11.55	9.96	84.7	
Q2399-03	TP-13-VOC	34	1.15	10.84	11.99	10.36	85.0	
Q2399-04	TP-13	35	1.13	10.84	11.97	10.27	84.3	
Q2399-05	EP-7	36	1.19	10.47	11.66	10.37	87.7	
Q2399-06	EP-7-EPH	37	1.19	10.47	11.66	10.33	87.3	
Q2399-07	EP-7-VOC	38	1.16	10.57	11.73	10.38	87.2	
Q2399-08	EP-13	39	1.19	10.47	11.66	10.37	87.7	
Q2400-01	B-156-SB01	40	1.17	10.58	11.75	10.11	84.5	
Q2400-02	B-134-SB01	41	1.19	10.00	11.19	9.49	83.0	
Q2403-03	LAW-25-0093	42	1.18	10.24	11.42	10.54	91.4	
Q2403-04	LAW-25-0093-E2	43	1.18	10.14	11.32	10.42	91.1	
Q2403-05	Concrete-062325	44	1.15	10.84	11.99	11.71	97.4	
Q2403-07	ARS 20-006	45	1.19	10.44	11.63	11.13	95.2	
Q2403-08	ARS020-0006-E2	46	1.18	10.64	11.82	11.09	93.1	
Q2405-01	MH-M/H	47	1.19	10.11	11.3	10.37	90.8	
Q2405-02	MH-M/N-EPH	48	1.19	10.01	11.2	10.15	89.5	
Q2405-03	MH-M/N-VOC	49	1.11	10.71	11.82	10.9	91.4	
Q2406-01	PUMPING-PLANT	50	1.00	1.00	2.00	2.00	100.0	oil sample
Q2409-02	COP-SOIL-PILE	51	1.18	10.58	11.76	11.38	96.4	
Q2410-01	TRE-25-0021	52	1.00	1.00	2.00	2.00	100.0	debris
Q2411-01	TRE-2002	53	1.00	1.00	2.00	2.00	100.0	wipe sample
Q2412-01	TR-05-062425	54	1.18	10.08	11.26	10.94	96.8	
Q2412-02	TR-05-062425-E2	55	1.16	10.28	11.44	11.23	98.0	

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

WORKLIST(Hardcopy Internal Chain)

136243

WorkList Name : %1-062425

WorkList ID : 190342

Department : Wet-Chemistry

Date : 06-24-2025 08:17:18

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2392-01	S-1	Solid	Percent Solids	Cool 4 deg C	EARTH03	A41	06/23/2025	Chemtech -SO
Q2392-02	S-1A	Solid	Percent Solids	Cool 4 deg C	EARTH03	A41	06/23/2025	Chemtech -SO
Q2393-01	PARK AVE -1	Solid	Percent Solids	Cool 4 deg C	UNIO02	A22	06/23/2025	Chemtech -SO
Q2393-02	PARK AVE -1	Solid	Percent Solids	Cool 4 deg C	UNIO02	A22	06/23/2025	Chemtech -SO
Q2393-03	PARK AVE -2	Solid	Percent Solids	Cool 4 deg C	UNIO02	A22	06/23/2025	Chemtech -SO
Q2393-04	PARK AVE -2	Solid	Percent Solids	Cool 4 deg C	UNIO02	A22	06/23/2025	Chemtech -SO
Q2393-05	PARK AVE -3	Solid	Percent Solids	Cool 4 deg C	UNIO02	A22	06/23/2025	Chemtech -SO
Q2393-06	PARK AVE -3	Solid	Percent Solids	Cool 4 deg C	UNIO02	A22	06/23/2025	Chemtech -SO
Q2393-07	PARK AVE -4	Solid	Percent Solids	Cool 4 deg C	UNIO02	A22	06/23/2025	Chemtech -SO
Q2393-08	PARK AVE -4	Solid	Percent Solids	Cool 4 deg C	UNIO02	A22	06/23/2025	Chemtech -SO
Q2393-09	PARK AVE -5	Solid	Percent Solids	Cool 4 deg C	UNIO02	A22	06/23/2025	Chemtech -SO
Q2393-10	PARK AVE -5	Solid	Percent Solids	Cool 4 deg C	UNIO02	A22	06/23/2025	Chemtech -SO
Q2393-11	PARK AVE -6	Solid	Percent Solids	Cool 4 deg C	UNIO02	A22	06/23/2025	Chemtech -SO
Q2393-12	PARK AVE -6	Solid	Percent Solids	Cool 4 deg C	UNIO02	A22	06/23/2025	Chemtech -SO
Q2394-01	MH-K/L	Solid	Percent Solids	Cool 4 deg C	PSEG03	A21	06/23/2025	Chemtech -SO
Q2394-02	MH-K/L EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	A21	06/23/2025	Chemtech -SO
Q2394-03	MH-K/L VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	A21	06/23/2025	Chemtech -SO
Q2394-04	MH-K/L	Solid	Percent Solids	Cool 4 deg C	PSEG03	A21	06/23/2025	Chemtech -SO
Q2396-01	245F53-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	A11	06/23/2025	Chemtech -SO
Q2396-02	245F53-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	A11	06/23/2025	Chemtech -SO
Q2396-03	LAW-25-1A	Solid	Percent Solids	Cool 4 deg C	PSEG03	A11	06/23/2025	Chemtech -SO

Date/Time 06/24/25 15:10

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

Date/Time 06/24/25

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

WORKLIST(Hardcopy Internal Chain)

136243

WorkList Name : %1-062425

WorkList ID : 190342

Department : Wet-Chemistry

Date : 06-24-2025 08:17:18

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2396-04	LAW-25-1B	Solid	Percent Solids	Cool 4 deg C	PSEG03	A11	06/23/2025	Chemtech -SO
Q2396-05	LAW-25-2A	Solid	Percent Solids	Cool 4 deg C	PSEG03	A11	06/23/2025	Chemtech -SO
Q2396-06	LAW-25-2B	Solid	Percent Solids	Cool 4 deg C	PSEG03	A11	06/23/2025	Chemtech -SO
Q2396-07	LAW-25-3A	Solid	Percent Solids	Cool 4 deg C	PSEG03	A11	06/23/2025	Chemtech -SO
Q2396-08	LAW-25-3B	Solid	Percent Solids	Cool 4 deg C	PSEG03	A11	06/23/2025	Chemtech -SO
Q2398-01	M00-25-0169	Solid	Percent Solids	Cool 4 deg C	PSEG03	A33	06/23/2025	Chemtech -SO
Q2398-03	M00-25-0179	Solid	Percent Solids	Cool 4 deg C	PSEG03	A33	06/23/2025	Chemtech -SO
Q2398-04	M00-25-0179-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	A33	06/23/2025	Chemtech -SO
Q2398-06	ARS20-0036	Solid	Percent Solids	Cool 4 deg C	PSEG03	A33	06/23/2025	Chemtech -SO
Q2398-07	ARS20-0036-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	A33	06/23/2025	Chemtech -SO
Q2399-01	TP-13	Solid	Percent Solids	Cool 4 deg C	PSEG03	A41	06/23/2025	Chemtech -SO
Q2399-02	TP-13-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	A41	06/23/2025	Chemtech -SO
Q2399-03	TP-13-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	A41	06/23/2025	Chemtech -SO
Q2399-04	TP-13	Solid	Percent Solids	Cool 4 deg C	PSEG03	A41	06/23/2025	Chemtech -SO
Q2399-05	EP-7	Solid	Percent Solids	Cool 4 deg C	PSEG03	A41	06/23/2025	Chemtech -SO
Q2399-06	EP-7-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	A41	06/23/2025	Chemtech -SO
Q2399-07	EP-7-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	A41	06/23/2025	Chemtech -SO
Q2399-08	EP-13	Solid	Percent Solids	Cool 4 deg C	PSEG03	A41	06/23/2025	Chemtech -SO
Q2400-01	B-156-SB01	Solid	Percent Solids	Cool 4 deg C	PORT06	A42	06/23/2025	Chemtech -SO
Q2400-02	B-134-SB01	Solid	Percent Solids	Cool 4 deg C	PORT06	A42	06/23/2025	Chemtech -SO
Q2403-03	LAW-25-0093	Solid	Percent Solids	Cool 4 deg C	PSEG03	A32	06/23/2025	Chemtech -SO

Date/Time

Raw Sample Received by:

Raw Sample Relinquished by:

Date/Time

Raw Sample Received by:

Raw Sample Relinquished by:

WORKLIST(Hardcopy Internal Chain)

136243

WorkList Name : %1-062425

WorkList ID : 190342

Department : Wet-Chemistry

Date : 06-24-2025 08:17:18

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2403-04	LAW-25-0093-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	A32	06/23/2025	Chemtech -SO
Q2403-05	Concrete-062325	Solid	Percent Solids	Cool 4 deg C	PSEG03	A32	06/23/2025	Chemtech -SO
Q2403-07	ARS 20-006	Solid	Percent Solids	Cool 4 deg C	PSEG03	A32	06/23/2025	Chemtech -SO
Q2403-08	ARS020-0006-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	A32	06/23/2025	Chemtech -SO
Q2405-01	MH-M/H	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/24/2025	Chemtech -SO
Q2405-02	MH-M/N-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/24/2025	Chemtech -SO
Q2405-03	MH-M/N-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/24/2025	Chemtech -SO
Q2406-01	PUMPING-PLANT	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/23/2025	Chemtech -SO
Q2409-02	COP-SOIL-PILE	Solid	Percent Solids	Cool 4 deg C	COPP02	D51	06/24/2025	Chemtech -SO
Q2410-01	TRE-25-0021	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/24/2025	Chemtech -SO
Q2411-01	TRE-2002	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/24/2025	Chemtech -SO
Q2412-01	TR-05-062425	Solid	Percent Solids	Cool 4 deg C	PSEG05	D41	06/24/2025	Chemtech -SO
Q2412-02	TR-05-062425-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	D41	06/24/2025	Chemtech -SO

Date/Time 06/24/25 15:10

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

Date/Time 06/24/25 17:20

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]



SHIPPING DOCUMENTS

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Gannett Fleming
ADDRESS: 1010 Adams Ave
CITY: Audubon STATE: PA ZIP: 19405
ATTENTION: Joe Krupansky
PHONE: 610-301-8341 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: Amdruk Replacement of SB
PROJECT NO.: 9500000818 LOCATION: Kearny, NJ
PROJECT MANAGER: Joe Krupansky
e-mail: CAC@bemsys.com
PHONE: 610-301-8341 FAX:

CLIENT BILLING INFORMATION

BILL TO: Alliance PO#:
ADDRESS: 284 Sheffield St
CITY: Mountainside STATE: NJ ZIP: 07093
ATTENTION: Samantha Brosky PHONE: 908-788-3148

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): 10 DAYS*
EDD: 10 DAYS*

*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☒ NJ Reduced ☐ US EPA CLP
☐ Level 3 (Results + QC) ☐ NYS ASP A ☐ NYS ASP B
+ Raw Data ☐ Other
☐ EDD FORMAT BEM EDD

1. PCBs
2. TAL Metals
3. Cr(VI) Cr(III)
4.
5.
6.
7.
8.
9.

PRESERVATIVES

COMMENTS

← Specify Preservatives
A-HCl D-NaOH
B-HNO3 E-ICE
C-H2SO4 F-OTHER

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES										
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9	
1.	B-156-SB01	S		X	6/22/15	14:45	1	X	X	X							
2.	B-134-SB01	S		X	↓	14:50	1	X	X	X							
3.																	
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. Mike Malczinski	DATE/TIME: 6/22/15 13:55	RECEIVED BY: 1. [Signature]	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 2.1°C
RELINQUISHED BY SAMPLER: 2.	DATE/TIME:	RECEIVED BY: 2.	Comments: BEM EDDs required
RELINQUISHED BY SAMPLER: 3.	DATE/TIME:	RECEIVED BY: 3.	

Page 1 of 1 CLIENT: ☐ Hand Delivered ☐ Other Shipment Complete ☐ YES ☐ NO

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488