

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:	P4892	OrderDate:	11/18/2024 8:10:00 AM
Client:	Portal Partners Tri-Venture	Project:	Amtrak Sawtooth Bridges 2024
Contact:	Joseph Krupansky	Location:	M11,VOA Ref. #2 Soil,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4892-01	WB-310-TOP	SOIL			11/15/24 09:00	11/18/24		11/15/24
			Hexavalent Chromium	7196A			11/18/24 16:03	
			Trivalent Chromium	6010D			11/19/24 15:53	
P4892-02	WB-310-BOT	SOIL			11/15/24 12:30	11/18/24		11/15/24
			Hexavalent Chromium	7196A			11/18/24 16:06	
			Trivalent Chromium	6010D			11/19/24 13:26	
P4892-03	WB-310-BOT	SOIL			11/15/24 12:30	11/18/24		11/15/24
			Corrosivity	9045D			11/18/24 16:00	
			Ignitability	1030			11/19/24 14:30	
			Reactive Cyanide	9012B			11/18/24 14:24	
			Reactive Sulfide	9034			11/19/24 09:48	
P4892-04	WB-310-SW	WATER			11/15/24 08:05			11/15/24
			Hexavalent Chromium	7196A			11/18/24 10:14	
			trivalent Chromium	6010D			11/25/24 15:50	



SAMPLE DATA

Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	11/15/24 09:00
Project:	Amtrak Sawtooth Bridges 2024	Date Received:	11/15/24
Client Sample ID:	WB-310-TOP	SDG No.:	P4892
Lab Sample ID:	P4892-01	Matrix:	SOIL
		% Solid:	59.8

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Hexavalent Chromium	0.13	U	1	0.13	0.66	mg/Kg	11/18/24 09:20	11/18/24 16:03	7196A
Trivalent Chromium	294		1	0.84	0.84	mg/Kg		11/19/24 15:53	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:	11/15/24 12:30
Project:	Amtrak Sawtooth Bridges 2024	Date Received:	11/15/24
Client Sample ID:	WB-310-BOT	SDG No.:	P4892
Lab Sample ID:	P4892-02	Matrix:	SOIL
		% Solid:	86.1

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Hexavalent Chromium	0.091	U	1	0.091	0.46	mg/Kg	11/18/24 09:20	11/18/24 16:06	7196A
Trivalent Chromium	8.36		1	0.58	0.58	mg/Kg		11/19/24 13:26	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:	11/15/24 12:30
Project:	Amtrak Sawtooth Bridges 2024	Date Received:	11/15/24
Client Sample ID:	WB-310-BOT	SDG No.:	P4892
Lab Sample ID:	P4892-03	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity	8.75	H	1	0	0	pH		11/18/24 16:00	9045D
Ignitability	NO		1	0	0	oC		11/19/24 14:30	1030
Reactive Cyanide	0.0088	U	1	0.0088	0.050	mg/Kg	11/18/24 10:30	11/18/24 14:24	9012B
Reactive Sulfide	6.35	J	1	0.19	10.0	mg/Kg	11/18/24 14:50	11/19/24 09:48	9034

Comments: pH result reported at temperature 24.5 °C

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:	11/15/24 08:05
Project:	Amtrak Sawtooth Bridges 2024	Date Received:	11/15/24
Client Sample ID:	WB-310-SW	SDG No.:	P4892
Lab Sample ID:	P4892-04	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Dissolved Hexavalent Chromium	0.0030	U	1	0.0030	0.010	mg/L		11/18/24 10:14	7196A
trivalent Chromium	0.010	U	1	0.010	0.010	mg/L		11/25/24 15:50	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.: P4892
RunNo.: LB133491

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Hexavalent Chromium	mg/L	0.498	0.5	100	90-110	11/18/2024
Sample ID: CCV1 Hexavalent Chromium	mg/L	0.503	0.5	101	90-110	11/18/2024
Sample ID: CCV2 Hexavalent Chromium	mg/L	0.499	0.5	100	90-110	11/18/2024

Initial and Continuing Calibration Verification

Client: Portal Partners Tri-Venture

SDG No.: P4892

Project: Amtrak Sawtooth Bridges 2024

RunNo.: LB133497

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Hexavalent Chromium	mg/L	0.502	0.5	100	90-110	11/18/2024
Sample ID: CCV1 Hexavalent Chromium	mg/L	0.499	0.5	100	90-110	11/18/2024
Sample ID: CCV2 Hexavalent Chromium	mg/L	0.499	0.5	100	90-110	11/18/2024
Sample ID: CCV3 Hexavalent Chromium	mg/L	0.500	0.5	100	90-110	11/18/2024
Sample ID: CCV4 Hexavalent Chromium	mg/L	0.498	0.5	100	90-110	11/18/2024

Initial and Continuing Calibration Verification

Client: Portal Partners Tri-Venture

SDG No.: P4892

Project: Amtrak Sawtooth Bridges 2024

RunNo.: LB133500

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	ICV						
Corrosivity		pH	7.01	7	100	90-110	11/18/2024
Sample ID:	CCV1						
Corrosivity		pH	2.01	2.00	101	90-110	11/18/2024
Sample ID:	CCV2						
Corrosivity		pH	12.02	12.00	100	90-110	11/18/2024

Initial and Continuing Calibration Verification

Client: Portal Partners Tri-Venture

SDG No.: P4892

Project: Amtrak Sawtooth Bridges 2024

RunNo.: LB133501

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 Reactive Cyanide	mg/L	0.094	0.099	95	85-115	11/18/2024
Sample ID: CCV1 Reactive Cyanide	mg/L	0.24	0.25	96	90-110	11/18/2024
Sample ID: CCV2 Reactive Cyanide	mg/L	0.25	0.25	100	90-110	11/18/2024
Sample ID: CCV3 Reactive Cyanide	mg/L	0.25	0.25	100	90-110	11/18/2024



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Initial and Continuing Calibration Blank Summary

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

SDG No.: P4892
RunNo.: LB133491

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024
Sample ID: CCB1 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024
Sample ID: CCB2 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024

Initial and Continuing Calibration Blank Summary

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

SDG No.: P4892
RunNo.: LB133497

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024
Sample ID: CCB1 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024
Sample ID: CCB2 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024
Sample ID: CCB3 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024
Sample ID: CCB4 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024

Initial and Continuing Calibration Blank Summary

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

SDG No.: P4892
RunNo.: LB133501

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00099	0.005	11/18/2024
Sample ID: CCB1 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00099	0.005	11/18/2024
Sample ID: CCB2 Reactive Cyanide	mg/L	0.0014	0.0025	J	0.00099	0.005	11/18/2024
Sample ID: CCB3 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00099	0.005	11/18/2024

Preparation Blank Summary

Client: Portal Partners Tri-Venture

SDG No.: P4892

Project: Amtrak Sawtooth Bridges 2024

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB133491BL Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.003	0.01	11/18/2024
Sample ID: PB164985BL Reactive Sulfide	mg/Kg	< 5.0000	5.0000	U	0.186	10	11/19/2024
Sample ID: PB165024BL Hexavalent Chromium	mg/Kg	< 0.2000	0.2000	U	0.079	0.4	11/18/2024
Sample ID: PB165064BL Reactive Cyanide	mg/Kg	< 0.0250	0.0250	U	0.0088	0.05	11/18/2024

Matrix Spike Summary

Client:	Portal Partners Tri-Venture	SDG No.:	P4892
Project:	Amtrak Sawtooth Bridges 2024	Sample ID:	P4860-01
Client ID:	DUP-01MS	Percent Solids for Spike Sample:	96.8

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	1290		0.080	U	1330	40	97		11/18/2024

Matrix Spike Summary

Client:	Portal Partners Tri-Venture	SDG No.:	P4892
Project:	Amtrak Sawtooth Bridges 2024	Sample ID:	P4860-01
Client ID:	DUP-01MS	Percent Solids for Spike Sample:	96.8

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	40.2		0.080	U	41.3	2	97		11/18/2024

Matrix Spike Summary

Client:	Portal Partners Tri-Venture	SDG No.:	P4892
Project:	Amtrak Sawtooth Bridges 2024	Sample ID:	P4860-01
Client ID:	DUP-01MS	Percent Solids for Spike Sample:	96.8

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	33.8		0.080	U	41.3	2	82		11/18/2024

Matrix Spike Summary

Client:	Portal Partners Tri-Venture	SDG No.:	P4892
Project:	Amtrak Sawtooth Bridges 2024	Sample ID:	P4892-04
Client ID:	WB-310-SWMS	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/L	90-111	0.99		0.0030	U	1.0	2	99		11/18/2024

Matrix Spike Summary

Client:	Portal Partners Tri-Venture	SDG No.:	P4892
Project:	Amtrak Sawtooth Bridges 2024	Sample ID:	P4892-04
Client ID:	WB-310-SWMSD	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/L	90-111	0.99		0.0030	U	1.0	2	99		11/18/2024

Duplicate Sample Summary

Client: Portal Partners Tri-Venture Project: Amtrak Sawtooth Bridges 2024 Client ID: MH-731DUP	SDG No.: P4892 Sample ID: P4833-04 Percent Solids for Spike Sample: 100
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Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Reactive Sulfide	mg/Kg	+/-20	3.19	J	3.19	J	1	0		11/19/2024

Duplicate Sample Summary

Client:	Portal Partners Tri-Venture	SDG No.:	P4892
Project:	Amtrak Sawtooth Bridges 2024	Sample ID:	P4860-01
Client ID:	DUP-01DUP	Percent Solids for Spike Sample:	96.8

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	+/-20	0.080	U	0.080	U	1	0		11/18/2024

Duplicate Sample Summary

Client:	Portal Partners Tri-Venture	SDG No.:	P4892
Project:	Amtrak Sawtooth Bridges 2024	Sample ID:	P4887-01
Client ID:	MH-739DUP	Percent Solids for Spike Sample:	91.2

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Ignitability	oC	+/-20	NO		NO		1	0		11/19/2024

Duplicate Sample Summary

Client:	Portal Partners Tri-Venture	SDG No.:	P4892
Project:	Amtrak Sawtooth Bridges 2024	Sample ID:	P4887-02
Client ID:	MH-739DUP	Percent Solids for Spike Sample:	100

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Reactive Cyanide	mg/Kg	+/-20	0.0087	U	0.0087	U	1	0		11/18/2024

Duplicate Sample Summary

Client:	Portal Partners Tri-Venture	SDG No.:	P4892
Project:	Amtrak Sawtooth Bridges 2024	Sample ID:	P4892-04
Client ID:	WB-310-SWDUP	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/L	+/-20	0.0030	U	0.0030	U	1	0		11/18/2024

Duplicate Sample Summary

Client:	Portal Partners Tri-Venture	SDG No.:	P4892
Project:	Amtrak Sawtooth Bridges 2024	Sample ID:	P4892-04
Client ID:	WB-310-SWMSD	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/L	+/-20	0.99		0.99		2	0.4		11/18/2024

Duplicate Sample Summary

Client:	Portal Partners Tri-Venture	SDG No.:	P4892
Project:	Amtrak Sawtooth Bridges 2024	Sample ID:	P4910-08
Client ID:	MH-759DUP	Percent Solids for Spike Sample:	100

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Corrosivity	pH	+/-20	8.77		8.78		1	0.11		11/18/2024

Laboratory Control Sample Summary

Client: Portal Partners Tri-Venture

SDG No.: P4892

Project: Amtrak Sawtooth Bridges 2024

Run No.: LB133491

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB133491BS							
Hexavalent Chromium	mg/L	0.5	0.51		102	1	90-111	11/18/2024

Laboratory Control Sample Summary

Client: Portal Partners Tri-Venture

SDG No.: P4892

Project: Amtrak Sawtooth Bridges 2024

Run No.: LB133497

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB165024BS							
Hexavalent Chromium	mg/Kg	20	20.1		101	1	84-110	11/18/2024



RAW DATA

Analysis Method: 7196A

ANALYST: rubina

Parameter: ~~Hexavalent Chromium~~

SUPERVISOR REVIEW BY: Iwona

Run Number: LB133491

pH Meter ID: WC pH Meter-1

Reagent/Standard	Lot/Log #
Calibration Std. hexchrome 0.1 ppm	WP110738
Calibration Std. hexchrome 0.05 ppm	WP110737
calibration std. hexchrome 0.01 ppm	WP110735
calibration std. hexchrome 0 ppm	WP110734
hexavalent chromium color reagent	WP110722
5N sulfuric acid	WP110380
Calibration Std Hexachrome 0.025 ppm	WP110736
Hexavalent Chromium ICV-LCS Std	WP110741
Calibration and CCV std HexChrome 0.5PPM	WP110739
Calibration std HexChrome 1.0PPM	WP110740

Intercept: 0.0004

Slope: 0.7829

Regression: 0.999992

Seq	Lab ID	True Value (mg/l)	DF	Initial Vol (ml)	Final Vol (ml)	pH HN03	pH H2SO4	Absorb.at 540nm		Absorbance Difference	Result (mg/L)	%D	Anal Date	Anal Time
								Backgrnd	Color					
1	CAL1	0	1	100	100		1.78	0.000	0.000	0.000	-0.00		11/18/2024	10:00
2	CAL2	0.01	1	100	100		1.84	0.000	0.007	0.007	0.008	-20	11/18/2024	10:01
3	CAL3	0.025	1	100	100		1.86	0.000	0.019	0.019	0.023	-8	11/18/2024	10:02
4	CAL4	0.05	1	100	100		1.89	0.000	0.040	0.040	0.050	0	11/18/2024	10:03
5	CAL5	0.1	1	100	100		1.88	0.000	0.081	0.081	0.102	2	11/18/2024	10:04
6	CAL6	0.5	1	100	100		1.86	0.000	0.392	0.392	0.500	0	11/18/2024	10:05
7	CAL7	1	1	100	100		1.84	0.000	0.783	0.783	0.999	-0.1	11/18/2024	10:06

Analytical Summary Report

Analysis Method: 7196A

ANALYST:rubina

Parameter: Hexavalent Chromium

SUPERVISOR REVIEW BY:Iwona

Run Number: LB133491

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		1.95	0.000	0.390	0.390	0.498	11/18/2024	10:07
2	ICB		1	100	100		1.77	0.000	0.001	0.001	0.001	11/18/2024	10:08
3	CCV1	0.5	1	100	100		1.97	0.000	0.394	0.394	0.503	11/18/2024	10:09
4	CCB1		1	100	100		1.81	0.000	0.000	0.000	-0.001	11/18/2024	10:10
5	RL Check	0.01	1	100	100		1.92	0.000	0.008	0.008	0.010	11/18/2024	10:11
6	LB133491BL		1	100	100		1.79	0.000	0.001	0.001	0.001	11/18/2024	10:12
7	LB133491BS	0.5	1	100	100		1.94	0.000	0.401	0.401	0.512	11/18/2024	10:13
8	P4892-04		1	100	100		2.04	0.000	0.000	0.000	-0.001	11/18/2024	10:14
9	P4892-04DU		1	100	100		2.06	0.000	0.000	0.000	-0.001	11/18/2024	10:15
10	P4892-04MS	1	2	100	100		2.06	0.000	0.389	0.389	0.496	11/18/2024	10:16
11	P4892-04MS	1	2	100	100		2.04	0.000	0.387	0.387	0.494	11/18/2024	10:17
12	CCV2	0.5	1	100	100		1.96	0.000	0.391	0.391	0.499	11/18/2024	10:18
13	CCB2		1	100	100		1.74	0.000	0.001	0.001	0.001	11/18/2024	10:19

WORKLIST(Hardcopy Internal Chain)

6133491

WorkList Name : HEX W 11-15

WorkList ID : 185493

Department : Wet-Chemistry

Date : 11-15-2024 16:29:33

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4892-04	WB-310-SW	Water	Hexavalent Chromium	Ammonium sulfate buffer	PORT06	M11	11/15/2024	7196A

Date/Time 11/15/2024 17:55
Raw Sample Received by: RM CWG
Raw Sample Relinquished by: RM CWG

Date/Time 11/18/2024 10:36
Raw Sample Received by: RM CWG
Raw Sample Relinquished by: RM CWG

Analytical Summary Report

Analysis Method: 7196A

ANALYST: rubina

Parameter: ~~Hexavalent Chromium~~

SUPERVISOR REVIEW BY: Iwona

Run Number: LB133497

pH Meter ID: WC pH Meter-1

Reagent/Standard	Lot/Log #
hexavalent chromium color reagent	WP110722
5N sulfuric acid	WP110380
HNO3 Hex-Chrome, 5M	WP110381
Hexchrome Cleaning Solution	WP108645

Intercept: 0.001

Slope: 0.7674

Regression: 0.99999

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	1.80	1.76	0.000	0.000	0.000	-0.00		11/18/2024	15:30
2	CAL2	0.01	1	100	100	7.38	1.85	0.000	0.009	0.009	0.010	0	11/18/2024	15:31
3	CAL3	0.025	1	100	100	7.35	1.87	0.000	0.020	0.020	0.024	-4	11/18/2024	15:32
4	CAL4	0.05	1	100	100	7.40	1.85	0.000	0.039	0.039	0.049	-2	11/18/2024	15:33
5	CAL5	0.1	1	100	100	7.41	1.88	0.000	0.080	0.080	0.102	2	11/18/2024	15:34
6	CAL6	0.5	1	100	100	7.38	1.86	0.000	0.383	0.383	0.497	-0.6	11/18/2024	15:35
7	CAL7	1	1	100	100	7.39	1.88	0.000	0.769	0.769	1.000	0	11/18/2024	15:36

Analytical Summary Report

Analysis Method: 7196A

ANALYST:rubina

Parameter: Hexavalent Chromium

SUPERVISOR REVIEW BY:Iwona

Run Number: LB133497

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	7.40	1.92	0.000	0.386	0.386	0.502	11/18/2024	15:37
2	ICB		1	100	100	7.27	1.81	0.000	0.001	0.001	0.000	11/18/2024	15:38
3	CCV1	0.5	1	100	100	7.43	1.96	0.000	0.384	0.384	0.499	11/18/2024	15:39
4	CCB1		1	100	100	7.28	1.75	0.000	0.001	0.001	0.000	11/18/2024	15:40
5	RL Check	0.01	1	100	100	7.40	1.91	0.000	0.009	0.009	0.010	11/18/2024	15:41
6	PB165024BL		1	2.50	100	7.25	1.77	0.000	0.001	0.001	0.000	11/18/2024	15:42
7	PB165024BS	20	1	2.50	100	7.44	1.94	0.000	0.386	0.386	0.502	11/18/2024	15:43
8	P4860-01		1	2.54	100	7.55	2.10	0.003	0.004	0.001	0.000	11/18/2024	15:44
9	P4860-01DU		1	2.54	100	7.58	2.06	0.003	0.004	0.001	0.000	11/18/2024	15:45
10	P4860-01MS	40	2	2.54	100	7.52	2.06	0.000	0.320	0.320	0.416	11/18/2024	15:46
11	P4860-01MS	1284	40	2.54	100	7.52	2.10	0.000	0.610	0.610	0.794	11/18/2024	15:47
12	P4860-01MS	40	2	2.54	100	7.58	2.16	0.000	0.380	0.380	0.494	11/18/2024	15:48
13	P4860-02		1	2.51	100	7.60	2.10	0.001	0.001	0.000	-0.001	11/18/2024	15:49
14	P4860-03		1	2.54	100	7.52	2.14	0.006	0.007	0.001	0.000	11/18/2024	15:50
15	P4860-04		1	2.52	100	7.66	2.06	0.001	0.007	0.006	0.007	11/18/2024	15:51
16	CCV2	0.5	1	100	100	7.47	1.95	0.000	0.384	0.384	0.499	11/18/2024	15:52
17	CCB2		1	100	100	7.30	1.79	0.000	0.000	0.000	-0.001	11/18/2024	15:53
18	P4860-05		1	2.51	100	7.67	2.20	0.003	0.004	0.001	0.000	11/18/2024	15:54
19	P4860-06		1	2.54	100	7.62	2.24	0.001	0.001	0.000	-0.001	11/18/2024	15:55
20	P4860-07		1	2.52	100	7.52	2.10	0.001	0.001	0.000	-0.001	11/18/2024	15:56
21	P4860-08		1	2.54	100	7.56	2.06	0.001	0.002	0.001	0.000	11/18/2024	15:57
22	P4860-09		1	2.51	100	7.55	2.06	0.001	0.007	0.006	0.007	11/18/2024	15:58
23	P4860-10		1	2.54	100	7.60	2.12	0.001	0.001	0.000	-0.001	11/18/2024	15:59
24	P4869-01		1	2.53	100	7.62	2.18	0.032	0.032	0.000	-0.001	11/18/2024	16:00
25	P4887-01		1	2.53	100	7.60	2.06	0.001	0.002	0.001	0.000	11/18/2024	16:01
26	P4887-05		1	2.51	100	7.64	2.10	0.002	0.002	0.000	-0.001	11/18/2024	16:02
27	P4892-01		1	2.52	100	7.67	2.16	0.018	0.019	0.001	0.000	11/18/2024	16:03
28	CCV3	0.5	1	100	100	7.42	1.92	0.000	0.385	0.385	0.500	11/18/2024	16:04
29	CCB3		1	100	100	7.24	1.74	0.000	0.001	0.001	0.000	11/18/2024	16:05
30	P4892-02		1	2.51	100	7.53	2.10	0.001	0.001	0.000	-0.001	11/18/2024	16:06
31	P4893-01		1	2.51	100	7.56	2.06	0.001	0.002	0.001	0.000	11/18/2024	16:07
32	P4893-05		1	2.54	100	7.52	2.08	0.002	0.002	0.000	-0.001	11/18/2024	16:08
33	CCV4	0.5	1	100	100	7.44	1.96	0.000	0.383	0.383	0.498	11/18/2024	16:09
34	CCB4		1	100	100	7.29	1.76	0.000	0.001	0.001	0.000	11/18/2024	16:10

Analytical Summary Report

Analysis Method: 9045D

Analyst By : jignesh

Parameter: Corrosivity

Supervisor Review By : Iwona

Run Number: LB133500

Slope : 98.9

BalanceID: WC SC-7

pH Meter ID : WC PH METER-1

Calibration Standards	Chemtech Log#
PH 4 BUFFER SOLUTION	W3107
BUFFER PH 7.00 GREEN 1PINT PK6	W3093
PH 10.01 BUFFER,COLOR CD 475ML	W3094
buffer solution pH 7 yellow	W3071
Buffer Solution, PH2 (500ml)	W3005
Buffer Solution, PH12 (500ml)	W3072

True Value of ICV = 7.00 Control Limits[+/- 0.1].

True Value of CCV1 = 2.00 Control Limits[+/- 0.1].

True Value of CCV2 = 12.00 Control Limits[+/- 0.1].

Seq	LabID	DF	Matrix	Weight (gm)	Volume (ml)	Temperature (°C)	Result (pH)	Anal Date	Anal Time
1	CAL1	1	Water	NA	NA	20.3	4.01	11/18/2024	15:30
2	CAL2	1	Water	NA	NA	20.3	7.00	11/18/2024	15:31
3	CAL3	1	Water	NA	NA	20.3	10.02	11/18/2024	15:33
4	ICV	1	Water	NA	NA	20.3	7.01	11/18/2024	15:35
5	CCV1	1	Water	NA	NA	20.3	2.01	11/18/2024	15:39
6	P4890-06	1	Solid	20.01	20	21.3	6.03	11/18/2024	15:44
7	P4892-03	1	Solid	20.02	20	24.5	8.75	11/18/2024	16:00
8	P4893-04	1	Solid	20.03	20	24.2	8.65	11/18/2024	16:05
9	P4893-08	1	Solid	20.04	20	24.6	8.03	11/18/2024	16:11
10	P4910-04	1	Solid	20.03	20	24.6	9.26	11/18/2024	16:20
11	P4910-08	1	Solid	20.02	20	24.1	8.77	11/18/2024	16:25
12	P4910-08DUP	1	Solid	20.03	20	24.2	8.78	11/18/2024	16:26
13	CCV2	1	Water	NA	NA	20.3	12.02	11/18/2024	16:30

WORKLIST(Hardcopy Internal Chain)

UP 133500

WorkList Name : corrosion p4892

WorkList ID : 185533

Department : Wet-Chemistry

Date : 11-18-2024 12:28:39

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4890-06	D3721	Solid	Corrosivity	Cool 4 deg C	PSEG03	M11	11/15/2024	9045D
P4892-03	WB-310-BOT	Solid	Corrosivity	Cool 4 deg C	PORT06	M11	11/15/2024	9045D
P4893-04	MH-763	Solid	Corrosivity	Cool 4 deg C	PSEG03	L51	11/16/2024	9045D
P4893-08	MH-762	Solid	Corrosivity	Cool 4 deg C	PSEG03	L51	11/16/2024	9045D
P4910-04	MH-COTTAGE	Solid	Corrosivity	Cool 4 deg C	PSEG03	L61	11/18/2024	9045D
P4910-08	MH-759	Solid	Corrosivity	Cool 4 deg C	PSEG03	L61	11/18/2024	9045D

Date/Time

11/18/24 15:00

Raw Sample Received by:

Ed CWC

Raw Sample Relinquished by:

Ed CWC

Date/Time

11/18/24

Raw Sample Received by:

Ed CWC

Raw Sample Relinquished by:

Ed CWC

Aquakem v. 7.2AQ1

Results from time period:

Mon Nov 18 14:16:42 2024

Mon Nov 18 14:31:30 2024

Sample Id	Sam/Ctr/c	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPBCN	A	Total CN	P	-0.8172	µg/l	11/18/2024 11:50:34	
5.0PPBCN	A	Total CN	P	5.3999	µg/l	11/18/2024 11:50:35	
10PPBCN	A	Total CN	P	10.086	µg/l	11/18/2024 11:50:36	
50PPBCN	A	Total CN	P	48.4619	µg/l	11/18/2024 11:50:37	
100PPBCN	A	Total CN	P	99.0095	µg/l	11/18/2024 11:50:38	
250PPBCN	A	Total CN	P	255.0272	µg/l	11/18/2024 11:50:39	
500PPBCN	A	Total CN	P	497.8326	µg/l	11/18/2024 11:50:40	
ICV1	S	Total CN	P	94.3213	µg/l	11/18/2024 14:16:42	
ICB1	S	Total CN	P	0.1349	µg/l	11/18/2024 14:16:44	
CCV1	S	Total CN	P	240.559	µg/l	11/18/2024 14:16:46	
CCB1	S	Total CN	P	0.6678	µg/l	11/18/2024 14:16:48	
PB165064BL	S	Total CN	P	0.5113	µg/l	11/18/2024 14:16:50	
P4887-02	S	Total CN	P	0.7918	µg/l	11/18/2024 14:16:52	
P4887-02DUP	S	Total CN	P	-0.1889	µg/l	11/18/2024 14:24:14	
P4887-06	S	Total CN	P	0.2964	µg/l	11/18/2024 14:24:15	
P4892-03	S	Total CN	P	0.0653	µg/l	11/18/2024 14:24:16	
P4893-04	S	Total CN	P	0.1485	µg/l	11/18/2024 14:24:17	
P4893-08	S	Total CN	P	0.1303	µg/l	11/18/2024 14:24:18	
P4890-06	S	Total CN	P	0.4437	µg/l	11/18/2024 14:24:19	
CCV2	S	Total CN	P	245.8902	µg/l	11/18/2024 14:24:22	
CCB2	S	Total CN	P	1.4131	µg/l	11/18/2024 14:24:23	
PB165065BL	S	Total CN	P	-0.0693	µg/l	11/18/2024 14:24:24	
P4890-01	S	Total CN	P	0.0417	µg/l	11/18/2024 14:31:21	
P4890-01DUP	S	Total CN	P	-0.0163	µg/l	11/18/2024 14:31:22	
P4890-02	S	Total CN	P	0.707	µg/l	11/18/2024 14:31:23	
P4890-03	S	Total CN	P	0.0838	µg/l	11/18/2024 14:31:24	
CCV3	S	Total CN	P	250.0733	µg/l	11/18/2024 14:31:29	
CCB3	S	Total CN	P	0.4602	µg/l	11/18/2024 14:31:30	

=====
Calibration results Aquakem 7.2AQ1 Page: 1

CHEMTECH CONSULTING GROUP INC
284 Sheffield Street, Mountainside, NJ 07092

11/18/2024 12:10 Reviewed by : NF Instrument ID : Konelab

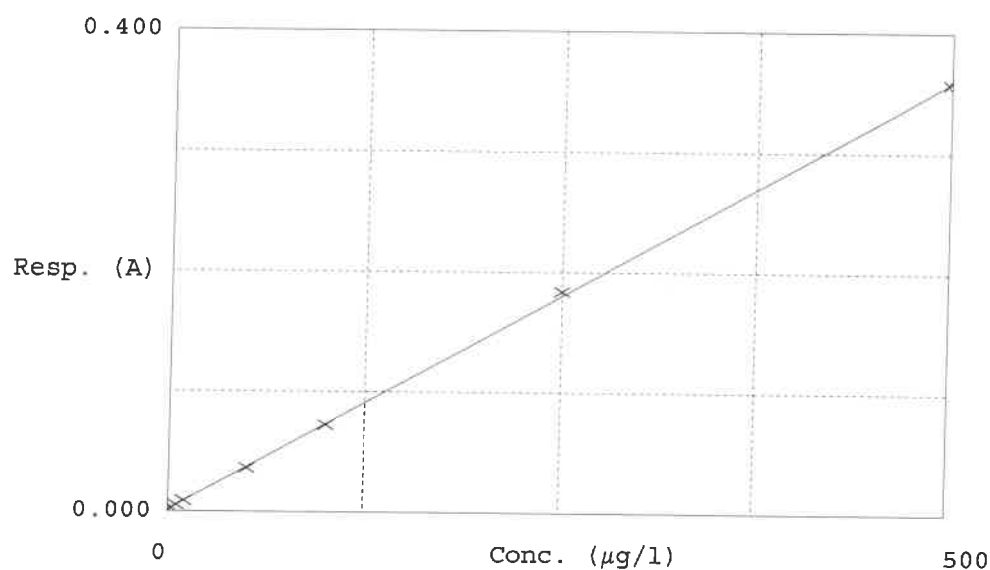
Test Total CN

Accepted 11/18/2024 12:09

Factor 1400
Bias 0.002

Coeff. of det. 0.999834

Errors



	Calibrator	Response	Calc. con.	Conc.	R_c Errors
1	0.0PPBCN	0.001	-0.8172	0.0000	
2	5.0PPBCN	0.005	5.3999	5.0000	8.0
3	10PPBCN	0.009	10.0860	10.0000	0.9
4	50PPBCN	0.036	48.4619	50.0000	-3.1
5	100PPBCN	0.072	99.0095	100.0000	-1.0
6	250PPBCN	0.184	255.0272	250.0000	2.0
7	500PPBCN	0.357	497.8326	500.0000	-0.4

NF
11.18.2024

Analysis Method: 9034

ANALYST: rubina

Parameter: Reactive Sulfide

SUPERVISOR REVIEW BY: Iwona

Run Number: LB133506

Constant: 16000

Normality1: 0.025

Normality2: 0.025

Reagent/Standard	Lot/Log #
SODIUM THIOSULFATE, 0.025N, 4LITRE	W3105
IODINE SOLUTION .025N 1L	W3114
Starch Solution, 4L	W3149

Seq	Lab ID	True Value (mg/l)	DF	Initial Weight (g)	Final Volume (ml)	T1 (ml)	T2 Initial	T2 Final	T2 Diff. (ml)	T1 - T2 Diff (mL)	Value Corrected With Blank	Result (ppm)	Anal Date	Anal Time
1	PB164985BL		1	5.00	50	2.00	0.00	1.92	1.92	0.08	0.00	0.00	11/19/2024	09:15
2	P4833-04		1	5.02	50	2.00	0.00	1.88	1.88	0.12	0.04	3.19	11/19/2024	09:18
3	P4833-04DUP		1	5.02	50	2.00	0.00	1.88	1.88	0.12	0.04	3.19	11/19/2024	09:20
4	P4833-08		1	5.07	50	2.00	0.00	1.84	1.84	0.16	0.08	6.31	11/19/2024	09:23
5	P4848-02		1	5.04	50	2.00	0.00	1.90	1.90	0.10	0.02	1.59	11/19/2024	09:25
6	P4849-02		1	5.01	50	2.00	0.00	1.86	1.86	0.14	0.06	4.79	11/19/2024	09:28
7	P4870-13		1	5.04	50	2.00	0.00	1.86	1.86	0.14	0.06	4.76	11/19/2024	09:30
8	P4870-14		1	5.01	50	2.00	0.00	1.86	1.86	0.14	0.06	4.79	11/19/2024	09:33
9	P4870-15		1	5.04	50	2.00	0.00	1.88	1.88	0.12	0.04	3.17	11/19/2024	09:35
10	P4870-16		1	5.06	50	2.00	0.00	1.90	1.90	0.10	0.02	1.58	11/19/2024	09:38
11	P4887-02		1	5.03	50	2.00	0.00	1.86	1.86	0.14	0.06	4.77	11/19/2024	09:40
12	P4887-06		1	5.05	50	2.00	0.00	1.86	1.86	0.14	0.06	4.75	11/19/2024	09:43

T1 = Titrant1

T2 = Titrant2

T2 Diff = T2 Final - T2 Initial

Value Corrected With Blank = ((T1 - T2 Diff) - Blank Correction(BL))

Result = ((T1 * Normality1) - ((T1 - Value Corrected With Blank) * Normality2)) * Constant / Initial Volume

Analysis Method: 9034

Parameter: Reactive Sulfide

Run Number: LB133506

ANALYST: rubina

SUPERVISOR REVIEW BY: Iwona

Constant: 16000

Normality1: 0.025

Normality2: 0.025

Reagent/Standard	Lot/Log #
SODIUM THIOSULFATE, 0.025N, 4LITRE	W3105
IODINE SOLUTION .025N 1L	W3114
Starch Solution, 4L	W3149

Seq	Lab ID	True Value (mg/l)	DF	Initial Weight (g)	Final Volume (ml)	T1 (ml)	T2 Initial	T2 Final	T2 Diff. (ml)	T1 - T2 Diff (mL)	Value Corrected With Blank	Result (ppm)	Anal Date	Anal Time
13	P4890-06		1	5.02	50	2.00	0.00	1.88	1.88	0.12	0.04	3.19	11/19/2024	09:45
14	P4892-03		1	5.04	50	2.00	0.00	1.84	1.84	0.16	0.08	6.35	11/19/2024	09:48
15	P4893-04		1	5.01	50	2.00	0.00	1.86	1.86	0.14	0.06	4.79	11/19/2024	09:50
16	P4893-08		1	5.01	50	2.00	0.00	1.86	1.86	0.14	0.06	4.79	11/19/2024	09:53

T1 = Titrant1

T2 = Titrant2

T2 Diff = T2 Final - T2 Initial

Value Corrected With Blank = ((T1 - T2 Diff) - Blank Correction(BL))

Result = ((T1 * Normality1) - ((T1 - Value Corrected With Blank) * Normality2)) * Constant / Initial Volume

Analytical Summary Report

Analysis Method: 1030
Parameter: Ignitability
Run Number: LB133514

Reviewed By: rubina

Supervisor Review By: Iwona

Seq	LabID	ClientID	DF	matrix	Result Status	Burning Rate	Anal Date	Anal Time
1	P4887-01	MH-739	1	Solid	NO	0.00	11/19/2024	13:45
2	P4887-01DUP	MH-739DUP	1	Solid	NO	0.00	11/19/2024	13:52
3	P4887-02	MH-739	1	Solid	NO	0.00	11/19/2024	14:00
4	P4887-05	MH-760	1	Solid	NO	0.00	11/19/2024	14:07
5	P4887-06	MH-760	1	Solid	NO	0.00	11/19/2024	14:15
6	P4890-06	D3721	1	Solid	NO	0.00	11/19/2024	14:22
7	P4892-03	WB-310-BOT	1	Solid	NO	0.00	11/19/2024	14:30
8	P4893-01	MH-763	1	Solid	NO	0.00	11/19/2024	14:37
9	P4893-04	MH-763	1	Solid	NO	0.00	11/19/2024	14:45
10	P4893-05	MH-762	1	Solid	NO	0.00	11/19/2024	14:52
11	P4893-08	MH-762	1	Solid	NO	0.00	11/19/2024	15:00
12	P4910-01	MH-COTTAGE	1	Solid	NO	0.00	11/19/2024	15:07
13	P4910-04	MH-COTTAGE	1	Solid	NO	0.00	11/19/2024	15:15
14	P4910-05	MH-759	1	Solid	NO	0.00	11/19/2024	15:22
15	P4910-08	MH-759	1	Solid	NO	0.00	11/19/2024	15:30

$$\text{Burning Rate} = \frac{\text{Length (mm)}}{\text{Total Time (sec)}}$$

WORKLIST(Hardcopy Internal Chain)

66133514

WorkList Name : IGN-11-18 WorkList ID : 185523 Department : Wet-Chemistry Date : 11-18-2024 10:58:15

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4892-03	WB-310-BOT	Solid	Ignitability	Cool 4 deg C	PORT06	M11	11/15/2024	1030
P4887-01	MH-739	Solid	Ignitability	Cool 4 deg C	PSEG03	M11	11/15/2024	1030
P4887-02	MH-739	Solid	Ignitability	Cool 4 deg C	PSEG03	M11	11/15/2024	1030
P4887-05	MH-760	Solid	Ignitability	Cool 4 deg C	PSEG03	M11	11/15/2024	1030
P4887-06	MH-760	Solid	Ignitability	Cool 4 deg C	PSEG03	M11	11/15/2024	1030
P4890-06	D3721	Solid	Ignitability	Cool 4 deg C	PSEG03	M11	11/15/2024	1030
P4893-01	MH-763	Solid	Ignitability	Cool 4 deg C	PSEG03	M11	11/15/2024	1030
P4910-08	MH-759	Solid	Ignitability	Cool 4 deg C	PSEG03	L51	11/16/2024	1030
P4893-04	MH-763	Solid	Ignitability	Cool 4 deg C	PSEG03	L61	11/18/2024	1030
P4893-05	MH-762	Solid	Ignitability	Cool 4 deg C	PSEG03	L51	11/16/2024	1030
P4893-08	MH-762	Solid	Ignitability	Cool 4 deg C	PSEG03	L51	11/16/2024	1030
P4910-01	MH-COTTAGE	Solid	Ignitability	Cool 4 deg C	PSEG03	L51	11/16/2024	1030
P4910-04	MH-COTTAGE	Solid	Ignitability	Cool 4 deg C	PSEG03	L61	11/18/2024	1030
P4910-05	MH-759	Solid	Ignitability	Cool 4 deg C	PSEG03	L61	11/18/2024	1030

Date/Time 11/19/2024 13:35
Raw Sample Received by: RM CWC
Raw Sample Relinquished by: JWC

Date/Time 11/19/2024 15:21
Raw Sample Received by: JWC
Raw Sample Relinquished by: 11/19/2024

SOP ID : M9030B-Sulfide-12

SDG No : N/A

Matrix : SOIL

Pipette ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#1

Block ID : MC-1,MC-2

Weigh By : RM

Start Digest Date: 11/18/2024 Time : 14:50 Temp : N/A

End Digest Date: 11/18/2024 Time : 16:20 Temp : N/A

Digestion tube ID : M5595

Block Thermometer ID : N/A

Filter paper ID : N/A

Prep Technician Signature: RM

pH Meter ID : N/A

Supervisor Signature: 12

Standard Name	MLS USED	STD REF. # FROM LOG
PBS003	50.0ML	W3112
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
0.5M ZINC ACETATE	5.0ML	WP108780
FORMALDEHYDE	2.0ML	W2725
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
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

N/A

11/18/2024 RM

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
P4833-04	MH-731	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
P4833-04DUP	MH-731DUP	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
P4833-08	TP-2	5.07	50	N/A	N/A	N/A	N/A	N/A	N/A
P4848-02	TP-1	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
P4849-02	RR-1	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P4870-13	TP-1	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
P4870-14	MH-735	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P4870-15	MH-736	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
P4870-16	TP-15	5.06	50	N/A	N/A	N/A	N/A	N/A	N/A
P4887-02	MH-739	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
P4887-06	MH-760	5.05	50	N/A	N/A	N/A	N/A	N/A	N/A
P4890-06	D3721	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
P4892-03	WB-310-BOT	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
P4893-04	MH-763	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P4893-08	MH-762	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
PB164985BL	PBS985	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : RSUL-11-18

WorkList ID : 185520

Department : Distillation

Date : 11-18-2024 10:18:14

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4833-04	MH-731	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	L31	11/13/2024	9034
P4833-08	TP-2	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	L31	11/13/2024	9034
P4848-02	TP-1	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	L41	11/14/2024	9034
P4849-02	RR-1	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	L51	11/14/2024	9034
P4870-13	TP-1	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03		11/14/2024	9034
P4870-14	MH-735	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03		11/14/2024	9034
P4870-15	MH-736	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03		11/14/2024	9034
P4870-16	TP-15	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03		11/14/2024	9034
P4887-02	MH-739	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03		11/14/2024	9034
P4887-06	MH-760	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	M11	11/15/2024	9034
P4890-06	D3721	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	M11	11/15/2024	9034
P4892-03	WB-310-BOT	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	M11	11/15/2024	9034
P4893-04	WC-1	Solid	Reactive Sulfide	Cool 4 deg C	PORT06	M11	11/15/2024	9034
P4893-08	WC-2	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	L51	11/16/2024	9034
					PSEG03	L51	11/16/2024	9034

Date/Time 11/18/2024 14:15
Raw Sample Received by: RM Coker
Raw Sample Relinquished by: JH Coker

Date/Time 11/18/2024 15:00
Raw Sample Received by: JH Coker
Raw Sample Relinquished by: RM Coker

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: 11/18/2024 Time : 09:20 Temp : 90 °C

End Digest Date: 11/18/2024 Time : 10:20 Temp : 95 °C

1 batch 11/18/2024 10:40 11/18/2024 11:40 9627RM 942JRM

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

Standard 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	WP110498
HEX. DIGESTION SOLN.	50.0ML	WP110633
5M HNO3	5-7ML	WP110381
5N H2SO4	1-3ML	WP110380
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	WP110733
CAL3	CAL3	0.5ML	WP110733
CAL4	CAL4	1ML	WP110733
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:

11/18/2024 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
P4860-01	DUP-01	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-01MSPre	DUP-01MSPRE	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-01MS2Ins	DUP-01MS2INS	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-01MS3Post	DUP-01MS3POST	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-01DUP	DUP-01DUP	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-02	PH2-BPT-001	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-03	PH2-BPT-002	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-04	PH2-BPT-003	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-05	PH2-BPT-004	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-06	PH2-BPT-009	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-07	PH2-BPT-008	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-08	PH2-BPT-007	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-09	PH2-BPT-006	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-10	PH2-BPT-005	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4869-01	EO-02-11152024	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
P4887-01	MH-739	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
P4887-05	MH-760	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4892-01	WB-310-TOP	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4892-02	WB-310-BOT	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4893-01	MH-763	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4893-05	MH-762	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
PB165024BL	PBS024	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A
PB165024BS	LCS024	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : HEX-11-18

WorkList ID : 185525

Department : Distillation

Date : 11-18-2024 10:07:29

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4860-01	DUP-01	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-02	PH2-BPT-001	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-03	PH2-BPT-002	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-04	PH2-BPT-003	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-05	PH2-BPT-004	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-06	PH2-BPT-009	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-07	PH2-BPT-008	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-08	PH2-BPT-007	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-09	PH2-BPT-006	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-10	PH2-BPT-005	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4869-01	EO-02-11152024	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4887-01	MH-739	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG05	M11	11/15/2024	7196A
P4887-05	MH-760	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	M11	11/15/2024	7196A
P4892-01	WB-310-TOP	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	M11	11/15/2024	7196A
P4892-02	WB-310-BOT	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	M11	11/15/2024	7196A
P4893-01	WC-1	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	M11	11/15/2024	7196A
P4893-05	WC-2	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	L51	11/16/2024	7196A

Date/Time 11/18/2024 08:45
 Raw Sample Received by: RM cwb
 Raw Sample Relinquished by: JF(007)

Date/Time 11/18/2024 10:50
 Raw Sample Received by: JF(007)
 Raw Sample Relinquished by: RM cwb

SOP ID : M9012B-Total, Amenable and Reactive Cyanide-20

SDG No : N/A

Start Digest Date: 11/18/2024 Time : 10:30 Temp : N/A

Matrix : SOIL

End Digest Date: 11/18/2024 Time : 12:00 Temp : N/A

Pipette ID : N/A

Balance ID : WC SC-7

Hood ID : HOOD#1

Digestion tube ID : M5595

Block Thermometer ID : N/A

Block ID : MC-1, MC-2

Filter paper ID : N/A

Prep Technician Signature: NF

Weigh By : NF

pH Meter ID : N/A

Supervisor Signature: 12

Standard Name	MLS USED	STD REF. # FROM LOG
PBS003	50.0ML	W3112
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
0.25N NaOH	N/A	WP108640
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
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	Comment

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/18/2024 , 12:15	NF(WC)	NF(WC)
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
P4887-02	MH-739	5.05	50	N/A	N/A	N/A	N/A	N/A	N/A
P4887-02DUP	MH-739DUP	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
P4887-06	MH-760	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
P4890-06	D3721	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
P4892-03	WB-310-BOT	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P4893-04	MH-763	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
P4893-08	MH-762	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
PB165064BL	PB165064BL	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : RCN S-11182024

WorkList ID : 185534

Department : Distillation

Date : 11-18-2024 09:30:43

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4887-02	MH-739	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	M11	11/15/2024	9012B
P4887-06	MH-760	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	M11	11/15/2024	9012B
P4890-06	D3721	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	M11	11/15/2024	9012B
P4892-03	WB-310-BOT	Solid	Reactive Cyanide	Cool 4 deg C	PORT06	M11	11/15/2024	9012B
P4893-04	MH-763	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	L51	11/16/2024	9012B
P4893-08	MH-762	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	L51	11/16/2024	9012B

Date/Time 10.18.2024, 10:00
 Raw Sample Received by: NFLWC
 Raw Sample Relinquished by: el wese

Date/Time 10.18.2024, 11:00
 Raw Sample Received by: NFLWC
 Raw Sample Relinquished by: NFLWC

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133491

Review By	rubina	Review On	11/18/2024 2:16:18 PM
Supervise By	Iwona	Supervise On	11/18/2024 4:24:37 PM
SubDirectory	LB133491	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	WP110738,WP110737,WP110735,WP110734,WP110722,WP110380,WP110736,WP110741,WP110739,WP110740		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	11/18/24 10:00		rubina	OK
2	CAL2	CAL2	CAL	11/18/24 10:01		rubina	OK
3	CAL3	CAL3	CAL	11/18/24 10:02		rubina	OK
4	CAL4	CAL4	CAL	11/18/24 10:03		rubina	OK
5	CAL5	CAL5	CAL	11/18/24 10:04		rubina	OK
6	CAL6	CAL6	CAL	11/18/24 10:05		rubina	OK
7	CAL7	CAL7	CAL	11/18/24 10:06		rubina	OK
8	ICV	ICV	ICV	11/18/24 10:07		rubina	OK
9	ICB	ICB	ICB	11/18/24 10:08		rubina	OK
10	CCV1	CCV1	CCV	11/18/24 10:09		rubina	OK
11	CCB1	CCB1	CCB	11/18/24 10:10		rubina	OK
12	RL Check	RL Check	SAM	11/18/24 10:11		rubina	OK
13	LB133491BL	LB133491BL	MB	11/18/24 10:12		rubina	OK
14	LB133491BS	LB133491BS	LCS	11/18/24 10:13		rubina	OK
15	P4892-04	WB-310-SW	SAM	11/18/24 10:14		rubina	OK
16	P4892-04DUP	WB-310-SWDUP	DUP	11/18/24 10:15		rubina	OK
17	P4892-04MS	WB-310-SWMS	MS	11/18/24 10:16	1ML WP108658+99.0ML SAMPLE	rubina	OK
18	P4892-04MSD	WB-310-SWMSD	MSD	11/18/24 10:17	1ML WP108658+99.0ML SAMPLE	rubina	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133491

Review By	rubina	Review On	11/18/2024 2:16:18 PM
Supervise By	Iwona	Supervise On	11/18/2024 4:24:37 PM
SubDirectory	LB133491	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	WP110738,WP110737,WP110735,WP110734,WP110722,WP110380,WP110736,WP110741,WP110739,WP110740		

19	CCV2	CCV2	CCV	11/18/24 10:18		rubina	OK
20	CCB2	CCB2	CCB	11/18/24 10:19		rubina	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133497

Review By	rubina	Review On	11/18/2024 4:36:35 PM
Supervise By	Iwona	Supervise On	11/25/2024 10:26:05 AM
SubDirectory	LB133497	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	WP110722,WP110380,WP110381,WP108645		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	11/18/24 15:30		rubina	OK
2	CAL2	CAL2	CAL	11/18/24 15:31		rubina	OK
3	CAL3	CAL3	CAL	11/18/24 15:32		rubina	OK
4	CAL4	CAL4	CAL	11/18/24 15:33		rubina	OK
5	CAL5	CAL5	CAL	11/18/24 15:34		rubina	OK
6	CAL6	CAL6	CAL	11/18/24 15:35		rubina	OK
7	CAL7	CAL7	CAL	11/18/24 15:36		rubina	OK
8	ICV	ICV	ICV	11/18/24 15:37		rubina	OK
9	ICB	ICB	ICB	11/18/24 15:38		rubina	OK
10	CCV1	CCV1	CCV	11/18/24 15:39		rubina	OK
11	CCB1	CCB1	CCB	11/18/24 15:40		rubina	OK
12	RL Check	RL Check	SAM	11/18/24 15:41		rubina	OK
13	PB165024BL	PB165024BL	MB	11/18/24 15:42		rubina	OK
14	PB165024BS	PB165024BS	LCS	11/18/24 15:43		rubina	OK
15	P4860-01	DUP-01	SAM	11/18/24 15:44		rubina	OK
16	P4860-01DUP	DUP-01DUP	DUP	11/18/24 15:45		rubina	OK
17	P4860-01MSPre	DUP-01MS	MS	11/18/24 15:46		rubina	OK
18	P4860-01MS2Ins	DUP-01MS	MS	11/18/24 15:47		rubina	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133497

Review By	rubina	Review On	11/18/2024 4:36:35 PM
Supervise By	Iwona	Supervise On	11/25/2024 10:26:05 AM
SubDirectory	LB133497	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	WP110722,WP110380,WP110381,WP108645		

19	P4860-01MS3Post	DUP-01MS	MS	11/18/24 15:48		rubina	OK
20	P4860-02	PH2-BOT-001	SAM	11/18/24 15:49		rubina	OK
21	P4860-03	PH2-BOT-002	SAM	11/18/24 15:50		rubina	OK
22	P4860-04	PH2-BOT-003	SAM	11/18/24 15:51		rubina	OK
23	CCV2	CCV2	CCV	11/18/24 15:52		rubina	OK
24	CCB2	CCB2	CCB	11/18/24 15:53		rubina	OK
25	P4860-05	PH2-BOT-004	SAM	11/18/24 15:54		rubina	OK
26	P4860-06	PH2-BOT-009	SAM	11/18/24 15:55		rubina	OK
27	P4860-07	PH2-BOT-008	SAM	11/18/24 15:56		rubina	OK
28	P4860-08	PH2-BOT-007	SAM	11/18/24 15:57		rubina	OK
29	P4860-09	PH2-BOT-006	SAM	11/18/24 15:58		rubina	OK
30	P4860-10	PH2-BOT-005	SAM	11/18/24 15:59		rubina	OK
31	P4869-01	EO-02-11152024	SAM	11/18/24 16:00		rubina	OK
32	P4887-01	MH-739	SAM	11/18/24 16:01		rubina	OK
33	P4887-05	MH-760	SAM	11/18/24 16:02		rubina	OK
34	P4892-01	WB-310-TOP	SAM	11/18/24 16:03		rubina	OK
35	CCV3	CCV3	CCV	11/18/24 16:04		rubina	OK
36	CCB3	CCB3	CCB	11/18/24 16:05		rubina	OK
37	P4892-02	WB-310-BOT	SAM	11/18/24 16:06		rubina	OK
38	P4893-01	MH-763	SAM	11/18/24 16:07		rubina	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133497

Review By	rubina	Review On	11/18/2024 4:36:35 PM
Supervise By	Iwona	Supervise On	11/25/2024 10:26:05 AM
SubDirectory	LB133497	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	WP110722,WP110380,WP110381,WP108645		

39	P4893-05	MH-762	SAM	11/18/24 16:08		rubina	OK
40	CCV4	CCV4	CCV	11/18/24 16:09		rubina	OK
41	CCB4	CCB4	CCB	11/18/24 16:10		rubina	OK

Instrument ID: WC PH METER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133500

Review By	jignesh	Review On	11/18/2024 5:03:23 PM
Supervise By	Iwona	Supervise On	11/19/2024 9:42:43 AM
SubDirectory	LB133500	Test	Corrosivity
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	W3107,W3093,W3094,W3071,W3005,W3072		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	11/18/24 15:30		Jignesh	OK
2	CAL2	CAL2	CAL	11/18/24 15:31		Jignesh	OK
3	CAL3	CAL3	CAL	11/18/24 15:33		Jignesh	OK
4	ICV	ICV	ICV	11/18/24 15:35		Jignesh	OK
5	CCV1	CCV1	CCV	11/18/24 15:39		Jignesh	OK
6	P4890-06	D3721	SAM	11/18/24 15:44		Jignesh	OK
7	P4892-03	WB-310-BOT	SAM	11/18/24 16:00		Jignesh	OK
8	P4893-04	MH-763	SAM	11/18/24 16:05		Jignesh	OK
9	P4893-08	MH-762	SAM	11/18/24 16:11		Jignesh	OK
10	P4910-04	MH-COTTAGE	SAM	11/18/24 16:20		Jignesh	OK
11	P4910-08	MH-759	SAM	11/18/24 16:25		Jignesh	OK
12	P4910-08DUP	MH-759DUP	DUP	11/18/24 16:26		Jignesh	OK
13	CCV2	CCV2	CCV	11/18/24 16:30		Jignesh	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB133501

Review By	Niha	Review On	11/19/2024 9:45:19 AM
Supervise By	Iwona	Supervise On	11/19/2024 1:45:32 PM
SubDirectory	LB133501	Test	Reactive Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP110743,WP110744,WP110745,WP110746,WP110747,WP110748,WP110749		
ICV Standard	WP110751		
CCV Standard	WP110744		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP109068,WP110103,WP110750		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	11/18/24 11:50		Niha	OK
2	5.0PPBCN	5.0PPBCN	CAL2	11/18/24 11:50		Niha	OK
3	10PPBCN	10PPBCN	CAL3	11/18/24 11:50		Niha	OK
4	50PPBCN	50PPBCN	CAL4	11/18/24 11:50		Niha	OK
5	100PPBCN	100PPBCN	CAL5	11/18/24 11:50		Niha	OK
6	250PPBCN	250PPBCN	CAL6	11/18/24 11:50		Niha	OK
7	500PPBCN	500PPBCN	CAL7	11/18/24 11:50		Niha	OK
8	ICV1	ICV1	ICV	11/18/24 14:16		Niha	OK
9	ICB1	ICB1	ICB	11/18/24 14:16		Niha	OK
10	CCV1	CCV1	CCV	11/18/24 14:16		Niha	OK
11	CCB1	CCB1	CCB	11/18/24 14:16		Niha	OK
12	PB165064BL	PB165064BL	MB	11/18/24 14:16		Niha	OK
13	P4887-02	MH-739	SAM	11/18/24 14:16		Niha	OK
14	P4887-02DUP	MH-739DUP	DUP	11/18/24 14:24		Niha	OK
15	P4887-06	MH-760	SAM	11/18/24 14:24		Niha	OK
16	P4892-03	WB-310-BOT	SAM	11/18/24 14:24		Niha	OK
17	P4893-04	MH-763	SAM	11/18/24 14:24		Niha	OK
18	P4893-08	MH-762	SAM	11/18/24 14:24		Niha	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB133501

Review By	Niha	Review On	11/19/2024 9:45:19 AM
Supervise By	Iwona	Supervise On	11/19/2024 1:45:32 PM
SubDirectory	LB133501	Test	Reactive Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP110743,WP110744,WP110745,WP110746,WP110747,WP110748,WP110749		
ICV Standard	WP110751		
CCV Standard	WP110744		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP109068,WP110103,WP110750		

19	P4890-06	D3721	SAM	11/18/24 14:24		Niha	OK
20	CCV2	CCV2	CCV	11/18/24 14:24		Niha	OK
21	CCB2	CCB2	CCB	11/18/24 14:24		Niha	OK
22	PB165065BL	PB165065BL	MB	11/18/24 14:24		Niha	OK
23	P4890-01	#3711	SAM	11/18/24 14:31		Niha	OK
24	P4890-01DUP	#3711DUP	DUP	11/18/24 14:31		Niha	OK
25	P4890-02	D3617	SAM	11/18/24 14:31		Niha	OK
26	P4890-03	D3690	SAM	11/18/24 14:31		Niha	OK
27	CCV3	CCV3	CCV	11/18/24 14:31		Niha	OK
28	CCB3	CCB3	CCB	11/18/24 14:31		Niha	OK

Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QC Batch ID # LB133506

Review By	rubina	Review On	11/19/2024 10:44:57 AM
Supervise By	Iwona	Supervise On	11/19/2024 10:50:37 AM
SubDirectory	LB133506	Test	Reactive Sulfide
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	W3105,W3114,W3149		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	PB164985BL	PB164985BL	MB	11/19/24 09:15		rubina	OK
2	P4833-04	MH-731	SAM	11/19/24 09:18		rubina	OK
3	P4833-04DUP	MH-731DUP	DUP	11/19/24 09:20		rubina	OK
4	P4833-08	TP-2	SAM	11/19/24 09:23		rubina	OK
5	P4848-02	TP-1	SAM	11/19/24 09:25		rubina	OK
6	P4849-02	RR-1	SAM	11/19/24 09:28		rubina	OK
7	P4870-13	TP-1	SAM	11/19/24 09:30		rubina	OK
8	P4870-14	MH-735	SAM	11/19/24 09:33		rubina	OK
9	P4870-15	MH-736	SAM	11/19/24 09:35		rubina	OK
10	P4870-16	TP-15	SAM	11/19/24 09:38		rubina	OK
11	P4887-02	MH-739	SAM	11/19/24 09:40		rubina	OK
12	P4887-06	MH-760	SAM	11/19/24 09:43		rubina	OK
13	P4890-06	D3721	SAM	11/19/24 09:45		rubina	OK
14	P4892-03	WB-310-BOT	SAM	11/19/24 09:48		rubina	OK
15	P4893-04	MH-763	SAM	11/19/24 09:50		rubina	OK
16	P4893-08	MH-762	SAM	11/19/24 09:53		rubina	OK

Instrument ID: FLAME

Daily Analysis Runlog For Sequence/QC Batch ID # LB133514

Review By	rubina	Review On	11/19/2024 4:46:48 PM
Supervise By	Iwona	Supervise On	11/19/2024 4:47:08 PM
SubDirectory	LB133514	Test	Ignitability
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	N/A		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	P4887-01	MH-739	SAM	11/19/24 13:45		rubina	OK
2	P4887-01DUP	MH-739DUP	DUP	11/19/24 13:52		rubina	OK
3	P4887-02	MH-739	SAM	11/19/24 14:00		rubina	OK
4	P4887-05	MH-760	SAM	11/19/24 14:07		rubina	OK
5	P4887-06	MH-760	SAM	11/19/24 14:15		rubina	OK
6	P4890-06	D3721	SAM	11/19/24 14:22		rubina	OK
7	P4892-03	WB-310-BOT	SAM	11/19/24 14:30		rubina	OK
8	P4893-01	MH-763	SAM	11/19/24 14:37		rubina	OK
9	P4893-04	MH-763	SAM	11/19/24 14:45		rubina	OK
10	P4893-05	MH-762	SAM	11/19/24 14:52		rubina	OK
11	P4893-08	MH-762	SAM	11/19/24 15:00		rubina	OK
12	P4910-01	MH-COTTAGE	SAM	11/19/24 15:07		rubina	OK
13	P4910-04	MH-COTTAGE	SAM	11/19/24 15:15		rubina	OK
14	P4910-05	MH-759	SAM	11/19/24 15:22		rubina	OK
15	P4910-08	MH-759	SAM	11/19/24 15:30		rubina	OK

Prep Standard - Chemical Standard Summary

Order ID : P4892

Test : Corrosivity, Hexavalent Chromium, Ignitability, Percent Solids, Reactive Cyanide, Reactive Sulfide, trivalent Chromium

Prepbatch ID : PB164985, PB165024, PB165064,

Sequence ID/Qc Batch ID: LB133491, LB133497, LB133500, LB133501, LB133506, LB133514, LB133623, LB133624,

Standard ID :

WP108640, WP108645, WP108658, WP108659, WP108780, WP109068, WP109549, WP110103, WP110380, WP110381, WP110498, WP110633, WP110722, WP110733, WP110734, WP110735, WP110736, WP110737, WP110738, WP110739, WP110740, WP110741, WP110742, WP110743, WP110744, WP110745, WP110746, WP110747, WP110748, WP110749, WP110750, WP110751,

Chemical ID :

E3657, E3788, M5673, M5929, M5947, M5954, M6096, W2202, W2511, W2651, W2652, W2668, W2708, W2725, W2882, W2926, W2979, W3001, W3005, W3019, W3058, W3071, W3072, W3093, W3094, W3105, W3107, W3112, W3113, W3114, W3138, W3139, W3142, W3149,



<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>
11	Sodium hydroxide absorbing solution 0.25 N	WP108640	07/05/2024	01/05/2025	Rubina Mughal	WETCHEM_S CALE_4 (WC SC-4)	None	Iwona Zarych 07/08/2024
<u>FROM</u> 21.00000L of W3112 + 210.00000gram of E3657 = Final Quantity: 21.000 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	WP108645	07/05/2024	12/27/2024	Rubina Mughal	None	None	Iwona Zarych 07/08/2024
<u>FROM</u> 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	WP108658	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 07/09/2024
<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	WP108659	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 07/09/2024
<u>FROM</u> 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>
160	0.5M ZINC ACETATE	WP108780	07/22/2024	12/08/2024	Rubina Mughal	WETCHEM_SCALE_5 (WC-5)	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 07/23/2024
FROM 0.88900L of W3112 + 1.00000ml of M5929 + 110.00000gram of W2926 = 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>
607	PYRIDINE-BARBITURIC ACID	WP109068	08/06/2024	12/08/2024	Niha Farheen Shaik	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 08/07/2024
<u>FROM</u>	145.00000ml of W3112 + 15.00000gram of W2882 + 15.00000ml of M5929 + 75.00000ml of W3019 = Final Quantity: 250.000 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>
3371	Cyanide LCS Spike Solution, 5PPM	WP109549	09/06/2024	01/05/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 09/06/2024

FROM 1.00000ml of W3138 + 199.00000ml of WP108640 = Final Quantity: 200.000 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>
539	CN BUFFER	WP110103	10/08/2024	04/08/2025	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 10/08/2024

FROM 138.00000gram of W2668 + 862.00000ml 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>
126	5N sulfuric acid	WP110380	10/24/2024	04/24/2025	Rubina Mughal	None	None	Iwona Zarych
								10/24/2024

FROM 140.00000ml of M5673 + 860.00000ml of W3112 = 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	WP110381	10/24/2024	04/24/2025	Rubina Mughal	None	None	Iwona Zarych
								10/24/2024

FROM 320.00000ml of M6096 + 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>
190	HEX CHROME PHOSPHATE BUFFER	WP110498	10/31/2024	04/29/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 10/31/2024
<u>FROM</u> 0.84500L of W3112 + 68.04000gram of W2708 + 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>
148	hexchrome digestion fluid	WP110633	11/11/2024	12/11/2024	Rubina Mughal	WETCHEM_S CALE_4 (WC SC-4)	None	Iwona Zarych 11/11/2024
<u>FROM</u> 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	WP110722	11/15/2024	11/22/2024	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 11/18/2024
<u>FROM</u>	0.25000gram of W2979 + 50.00000ml of E3788 = 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>
1103	HEX CHROME INTERMEDIATE STD SOURCE 1 (5PPM)	WP110733	11/18/2024	11/19/2024	Rubina Mughal	None	WETCHEM_P IPETTE_3 (WC)	Iwona Zarych 11/18/2024
<u>FROM</u>	9.00000ml of W3112 + 1.00000ml of WP108658 = Final Quantity: 10.000 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>
110	calibration std. hexchrome 0 ppm	WP110734	11/18/2024	11/19/2024	Rubina Mughal	None	None	Iwona Zarych
								11/18/2024

FROM 100.00000ml of W3112 = Final Quantity: 100.000 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>
109	calibration std. hexchrome 0.01 ppm	WP110735	11/18/2024	11/19/2024	Rubina Mughal	None	WETCHEM_FIPETTE_3	Iwona Zarych
							(WC)	11/18/2024

FROM 99.80000ml of W3112 + 0.20000ml of WP110733 = Final Quantity: 100.000 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>
3800	Calibration Std Hexachrome 0.025 ppm	WP110736	11/18/2024	11/19/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/18/2024
<u>FROM</u>	99.50000ml of W3112 + 0.50000ml of WP110733 = Final Quantity: 100.000 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>
108	Calibration Std. hexchrome 0.05 ppm	WP110737	11/18/2024	11/19/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/18/2024
<u>FROM</u>	99.00000ml of W3112 + 1.00000ml of WP110733 = Final Quantity: 100.000 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>
107	Calibration Std. hexchrome 0.1 ppm	WP110738	11/18/2024	11/19/2024	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 11/18/2024
FROM 99.80000ml of W3112 + 0.20000ml of WP108658 = Final Quantity: 100.000 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>
3808	Calibration and CCV std HexChrome 0.5PPM	WP110739	11/18/2024	11/19/2024	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 11/18/2024
FROM 99.00000ml of W3112 + 1.00000ml of WP108658 = Final Quantity: 100.000 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>
3809	Calibration std HexChrome 1.0PPM	WP110740	11/18/2024	11/19/2024	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 11/18/2024
FROM 98.00000ml of W3112 + 2.00000ml of WP108658 = Final Quantity: 100.000 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>
3804	Hexavalent Chromium ICV-LCS Std	WP110741	11/18/2024	11/19/2024	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 11/18/2024
FROM 99.00000ml of W3112 + 1.00000ml of WP108659 = Final Quantity: 100.000 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>
3456	Cyanide Intermediate Working Std, 5PPM	WP110742	11/18/2024	11/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 11/19/2024

FROM 0.25000ml of W3142 + 49.75000ml of WP108640 = 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>
4	Calibration standard 500 ppb	WP110743	11/18/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/19/2024

FROM 45.00000ml of WP108640 + 5.00000ml of WP110742 = Final Quantity: 50.000 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>
3761	Calibration-CCV CN Standard 250 ppb	WP110744	11/18/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								11/19/2024

FROM 2.50000ml of WP110742 + 47.50000ml of WP108640 = 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>
6	Calibration Standard 100 ppb	WP110745	11/18/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								11/19/2024

FROM 1.00000ml of WP110742 + 49.00000ml of WP108640 = 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>
7	Calibration Standard 50 ppb	WP110746	11/18/2024	11/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 11/19/2024
<u>FROM</u> 0.50000ml of WP110742 + 49.50000ml of WP108640 = 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>
8	Calibration Standard 10 ppb	WP110747	11/18/2024	11/19/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/19/2024
<u>FROM</u>	1.00000ml of WP110743 + 49.00000ml of WP108640 = Final Quantity: 50.000 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>
9	Calibration Standard 5 ppb	WP110748	11/18/2024	11/19/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 11/19/2024

FROM 0.50000ml of WP110743 + 49.50000ml of WP108640 = 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>
167	0 ppb CN calibration std	WP110749	11/18/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/19/2024

FROM 50.00000ml of WP108640 = Final Quantity: 50.000 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>
1582	Chloramine T solution, 0.014M	WP110750	11/18/2024	11/19/2024	Niha Farheen Shaik	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 11/19/2024

FROM 0.08000gram of W3139 + 20.00000ml of W3112 = Final Quantity: 20.000 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>
2168	RCN ICV STD, 100 PPB	WP110751	11/18/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/19/2024

FROM 1.00000ml of WP109549 + 49.00000ml of WP108640 = 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 #
PCI Scientific Supply, Inc.	PC19510-5 / Sodium Hydroxide Pellets 2.5 Kg, Pk of 4	23B1556310	12/31/2025	12/04/2023 / Rajesh	12/01/2023 / Rajesh	E3657

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)	23D2462010	03/20/2028	09/21/2023 / mohan	09/05/2023 / mohan	M5673

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	12/08/2024	06/24/2024 / Al-Terek	06/07/2024 / Al-Terek	M5929

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

CHEMICAL RECEIPT LOG BOOK

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	10/22/2024 / Janvi	09/21/2024 / Janvi	M6096

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.	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 #
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.	J3818-5 / SODIUM PHOSPHATE, MONOBAS/HYD, CRYST, ACS, 2.5 KG	0000225799	12/03/2025	04/05/2021 / Alexander	02/10/2020 / apatel	W2668

CHEMICAL RECEIPT LOG BOOK

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	99/2019-20	05/05/2025	05/05/2020 / apatel	05/05/2020 / apatel	W2708

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EMD-FX0410-5 / FORMALDEHYDE SOLUTION 450ML	60045	06/22/2025	08/19/2024 / lwona	06/22/2020 / apatel	W2725

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EM-BX0035-3 / Barbituric Acid, 100 gms	1.00132.0100	04/30/2025	12/07/2021 /	11/30/2021 / apatel	W2882

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J4296-1 / ZINC ACETATE, DIHYD, CRYST, ACS, 500G	383058	07/05/2027	07/05/2022 / ketankumar	07/05/2022 / ketankumar	W2926

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 #
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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL13850-1 / Buffer Solution, PH2 (500ml)	4212E45	12/31/2024	01/31/2023 / Iwona	01/31/2023 / Iwona	W3005

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
SIGMA ALDRICH	270970-1L / Pyridine 1L	SHBQ2113	04/03/2028	04/03/2023 / Iwona	04/03/2023 / Iwona	W3019

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 / Iwona	W3058

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14455-3 / buffer solution pH 7 yellow	4308H30	07/31/2025	01/02/2024 / JIGNESH	12/06/2023 / Iwona	W3071

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14940-1 / Buffer Solution, PH12 (500ml)	2310P21	04/30/2025	01/02/2024 / JIGNESH	12/07/2023 / Iwona	W3072

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	566002 / BUFFER PH 7.00 GREEN 1PINT PK6	44001f99	12/31/2025	04/03/2024 / jignesh	04/02/2024 / jignesh	W3093

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1601-1 / PH 10.01 BUFFER,COLOR CD 475ML	4310g83	03/31/2025	04/03/2024 / jignesh	04/02/2024 / jignesh	W3094

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL69870-8 / SODIUM THIOSULFATE,0.025N,4LITRE	4403S13	09/30/2025	04/22/2024 / lwona	04/22/2024 / lwona	W3105

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14055-3 / PH 4 BUFFER SOLUTION	AL14055-3	02/27/2026	09/05/2024 / jignesh	05/13/2024 / jignesh	W3107

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.	AL35830-4 / IODINE SOLUTION .025N 1L	2405D89	05/31/2025	07/10/2024 / lwona	07/10/2024 / lwona	W3114

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	LC135457 / Cyanide Standard, 1000 PPM, Second Source	44080060	01/30/2025	09/06/2024 / lwona	08/28/2024 / lwona	W3138

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	JTE494-6 / CHLORAMINE-T BAKER 250GM	10239484	09/09/2029	09/09/2024 / lwona	09/09/2024 / lwona	W3139

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	RC2543-4 / CYANIDE STD 1000PPM 4OZ	1405J81	11/30/2024	09/25/2024 / lwona	09/25/2024 / lwona	W3142

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL70850-8 / Starch Solution, 4L	4408P62	08/31/2026	10/16/2024 / lwona	10/16/2024 / lwona	W3149

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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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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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 ₂ HPO ₄) (by acidimetry)	>= 98.0 %	99.2
Insoluble Matter	<= 0.01 %	< 0.01
Loss on Drying at 105°C	<= 1.0 %	< 1.0
pH of 5% Solution at 25°C	8.5 – 9.6	9.1
Chloride (Cl)	<= 0.003 %	< 0.003
Fluoride (F)	<= 0.001 %	< 0.001
Nitrogen Compounds (as N)	<= 0.001 %	< 0.001
Sulfate (SO ₄)	<= 0.005 %	< 0.005
Trace Impurities – Iron (Fe)	<= 0.001 %	< 0.001
Sodium (Na)	<= 0.05 %	< 0.05
Trace Impurities – Arsenic (As)	<= 1.000 ppm	< 1.000
Trace Impurities – ACS – Heavy Metals (as Pb)	<= 5 ppm	< 5
Trace Impurities – Lead (Pb)	<= 5.000 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, FSC22000
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

W3071
Rec 12/6/23

Certificate of Analysis 12

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

Lot Number: 4308H30

Product Number: 1551

Manufacture Date: AUG 09, 2023

Expiration Date: JUL 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	0	5	10	15	20	25	30	35	40	45	50
pH	7.12	7.09	7.06	7.04	7.02	7.00	6.99	6.98	6.98	6.97	6.97

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Phosphate Dibasic	7558-79-4	ACS
Potassium Dihydrogen Phosphate	7778-77-0	ACS
Preservative	Proprietary	
Yellow Dye	Proprietary	
Sodium Hydroxide	1310-73-2	Reagent

Test	Specification	Result
Appearance	Yellow liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	7.002	0.02	186-I-g, 186-II-g, 191d

Specification	Reference
Commercial Buffer Solutions	ASTM (D 1293 B)
Buffer A	ASTM (D 5464)
Buffer A	ASTM (D 5128)

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1551-2.5	10 L Cubitainer®	24 months
1551-5	20 L Cubitainer®	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (08/09/2023)

Production Manager

This document is designed to comply with ISO Guide 31 "Reference Materials --
Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

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

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
Product	Magnesium chloride hexahydrate
Lot Number	002251-03319 Magnesium chloride•6H ₂ O
CAS Number	7791-18-6
Molecular Formula	MgCl ₂ •6H ₂ O
Molecular Weight	203.3

Appearance	Colorless crystals, very deliquescent
Heavy Metals	< 5 ppm
Anion	Nitrate : < 0.001% Phosphate : < 5 ppm Sulfate : < 0.002%
Cation	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%
Insoluble material	0.0025%
Assay by titration	100.29%
Grade	ACS reagent
Storage	Store at RT
Country of Origin	India

Certificate of Analysis

Catalog Number: 01237

Lot Number: 002251-03319

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

W3019
rec 4/3/23

3050 Spruce Street, Saint Louis, MO 63103, USA

Website: www.sigmaaldrich.comEmail USA: techserv@sial.comOutside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:

Pyridine - anhydrous, 99.8%

Product Number:

270970

Batch Number:

SHBQ2113

Brand:

SIAL

CAS Number:

110-86-1

MDL Number:

MFCD00011732

Formula:

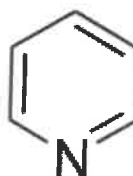
C₅H₅N

Formula Weight:

79.10 g/mol

Quality Release Date:

15 DEC 2022



Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
Infrared Spectrum	Conforms to Structure	Conforms
Purity (GC)	≥ 99.75 %	99.99 %
Water (by Karl Fischer)	≤ 0.003 %	0.002 %
Residue on Evaporation	≤ 0.0005 %	< 0.0001 %


Larry Coers, Director
Quality Control
Sheboygan Falls, 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



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 ₄)	0.001% max.	<0.001%
Potassium (K)	0.005% max.	0.003%
Silica (SiO ₂)	0.005% max.	<0.005%
Sulfur compounds (as SO ₄)	0.003% max.	<0.003%

Joe Schoellkopf

Quality Control Manager

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

EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMD Millipore Corporation

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

Form number: 00005624CA, Rev. 2.0

**RICCA CHEMICAL COMPANY®**

1841 Broad Street
Pocomoke City, MD 21851
<http://www.riccachemical.com>
1-888-GO-RICCA
customerservice@riccachemical.com

W 3072
REC. 12/01/23
12

Certificate of Analysis

Buffer, Reference Standard, pH 12.00 ± 0.01 at 25°C**Lot Number: 2310P21****Product Number: 1615****Manufacture Date: OCT 24, 2023****Expiration Date: APR 2025**

The certified value for this product is confirmed in independent testing by a second qualified chemist.

°C	15	20	25	30	35	40
pH	12.35	12.17	11.99	11.78	11.62	11.46

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Chloride	7447-40-7	ACS
Sodium Hydroxide	1310-73-2	Reagent

Test	Specification	Result
Appearance	Colorless liquid	Passed

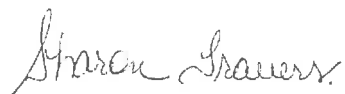
*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	12.005	0.02	186-I-g, 186-II-g, 191d

pH measurements were performed in our Pocomoke City, MD laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.01) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1615-1	4 L natural poly	18 months
1615-16	500 mL clear PET-G	18 months
1615-32	1 L natural poly	18 months
1615-5	20 L Cubitainer®	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Sharon Travers (10/24/2023)

Operations Manager

This document is designed to comply with ISO Guide 31 "Reference Materials --
Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.



Certificate of Analysis

Date of Release: 2/26/2020

Name: Formaldehyde Solution
GR ACS
Meets ACS Specifications

Item No: FX0410 all size codes

Lot / Batch No: 60045

Country of Origin: USA

Characteristic	Requirement		Results	Units
	Min.	Max.		
Assay	36.5	38.0	36.71	%
Chloride (Cl)		5	<5	ppm
Color (APHA)		10	<10	
Form			Passes test	
Heavy metals (as Pb)		5	<5	ppm
Iron (Fe)		5	0.6	ppm
Residue after ignition		0.005	<0.0050	%
Sulfate (SO ₄)		0.002	<0.0020	%
Titrate acid		0.006	<0.0060	meq/g

Heather Sinn,

Quality Control Manager

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EMD Millipore Corporation, an affiliate of Merck KGaA, Darmstadt, Germany
290 Concord Road
Billerica, MA 01821
U.S.A

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.



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.



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	$\leq 0.005 \%$	$< 0.005 \%$	PASS
Chloride	$\leq 0.005 \%$	0.002 %	PASS
Heavy Metals	$\leq 0.002 \%$	$< 0.002 \%$	PASS
Iron	$\leq 0.001 \%$	$< 0.001 \%$	PASS
Magnesium	$\leq 0.002 \%$	$< 0.002 \%$	PASS
Mercury	$\leq 0.1 \text{ ppm}$	$< 0.1 \text{ ppm}$	PASS
Nickel	$\leq 0.001 \%$	$< 0.001 \%$	PASS
Nitrogen Compounds	$\leq 0.001 \%$	$< 0.001 \%$	PASS
Phosphate	$\leq 0.001 \%$	$< 0.001 \%$	PASS
Potassium	$\leq 0.02 \%$	$< 0.02 \%$	PASS
Purity	$\geq 97.0 \%$	99.2 %	PASS
Sodium Carbonate	$\leq 1.0 \%$	0.5 %	PASS
Sulfate	$\leq 0.003 \%$	$< 0.003 \%$	PASS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

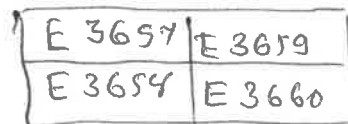
This document has been electronically produced and is valid without a signature.

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.



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 ₃) ₂ 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 ₂ 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.: 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

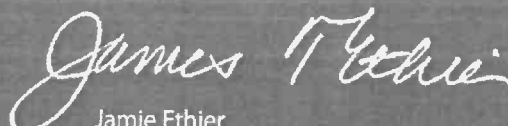


Material No.: 9673-33
Batch No.: 23D2462010

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

 **avantorsm**



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 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

 **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

 **avantor™**

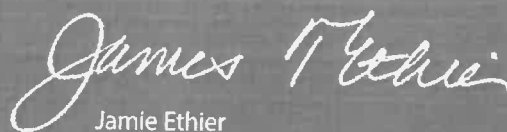


Material No.: 9530-33
Batch No.: 22G2862015

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



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 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



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, appearing to read 'J. Croak'.

Jamie Croak
Director Quality Operations, Bioscience Production

Nitric Acid 69%
CMOS

avantor™



M6096
M6097
M6098
M6099
M6100

Mutdig
9/21/24

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



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


Jamie Croak
Director Quality Operations, Bioscience Production



Certificate of Analysis

1.00132.0000 Barbituric acid for analysis EMSURE®
Batch N020065932

	Spec. Values		Batch Values	
Assay (acidimetric)	≥ 99	%	99.6	%
Identity (IR-spectrum)	passes test		passes test	
Chloride (Cl)	≤ 40	ppm	≤ 40	ppm
Heavy metals (as Pb)	≤ 50	ppm	≤ 50	ppm
Fe (Iron)	≤ 10	ppm	≤ 10	ppm
Sulfated ash	≤ 0.1	%	≤ 0.1	%
Loss on Drying (105 °C)	≤ 0.1	%	≤ 0.1	%
Suitability as reagent (for cyanide determination)	passes test		passes test	

Date of release (DD.MM.YYYY) 17.04.2020
Minimum shelf life (DD.MM.YYYY) 30.04.2025

Ioannis Chartomatsidis
Responsible laboratory manager quality control

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



CHAMPA PURIE-CHEM INDUSTRIES

ISO 9001 : 2015 CERTIFIED COMPANY

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E-mail : info@cpcindia.com

Web : www.cpcindia.com

W2708 Received on 05/05/20 by AP

CERTIFICATE OF ANALYSIS

PRODUCT	: POTASSIUM PHOSPHATE MONOBASIC Anhy. - ACS	
CERTIFICATE NO	: 99/2019- 20	DATE 26-08-2019
Date of receipt of sample	: 22.08.2019	Quantity : 1000 KGS
Batch No. /Lot No	: 99/2019- 20	
Mfg. Date	: Aug-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)	: 99.27%	Min.99.00%
5. PH (5% solution)	: 4.4	4.1-4.5
6. Loss on Drying	: 0.1%	Max 0.2%
7. Heavy Metals	: 0.0003%	Max.0.001%
8. Iron	: 0.001%	Max 0.002%
9. Sulphate	: 0.001%	Max. 0.003%
10. Chloride	: 0.0005%	Max.0.001%
11. Insoluble Matter	: 0.003%	Max. 0.01%
12. Sodium	: 0.004%	Max. 0.005%
The sample does comply with specification as per Above.		
Analysed by	<u>J.A. PATHAK</u>	Quality Control Department

Sodium Phosphate, Monobasic, Monohydrate,
Crystal
BAKER ANALYZED® A.C.S. Reagent

(sodium dihydrogen phosphate, monohydrate)



Material No.: 3818-05
Batch No.: 0000225799
Manufactured Date: 2018/12/05
Retest Date: 2025/12/03
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$)	98.0 – 102.0 %	99.5
pH of 5% Solution at 25°C	4.1 – 4.5	4.3
Insoluble Matter	≤ 0.01 %	< 0.01
Chloride (Cl)	≤ 5 ppm	< 5
ACS – Sulfate (SO_4)	≤ 0.003 %	< 0.003
Calcium (Ca)	≤ 0.005 %	< 0.005
Potassium (K)	≤ 0.01 %	< 0.01
Heavy Metals (as Pb)	≤ 0.001 %	< 0.001
Trace Impurities – Iron (Fe)	≤ 0.001 %	< 0.001

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

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


Jamie Ethier
Vice President Global Quality

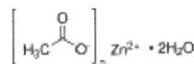
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Certificate of Analysis

Product Name:

Zinc acetate dihydrate - ACS reagent, $\geq 98\%$

Product Number: 383058
Batch Number: MKCQ9159
Brand: SIGALD
CAS Number: 5970-45-6
MDL Number: MFCD00066961
Formula: $C_4H_6O_4Zn \cdot 2H_2O$
Formula Weight: 219.51 g/mol
Quality Release Date: 06 JAN 2022



W2926
Open 7/5/22
received
on 7/5/22

Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder or Crystal or Chunk(s)	Powder
Infrared Spectrum	Conforms to Structure	Conforms
Insoluble Matter	$\leq 0.005 \%$	0.003 %
Calcium (Ca)	$\leq 0.005 \%$	0.003 %
Chloride (Cl)	$\leq 5 \text{ ppm}$	$< 5 \text{ ppm}$
Iron (Fe)	$\leq 5 \text{ ppm}$	$< 5 \text{ ppm}$
Potassium (K)	$\leq 0.01 \%$	0.00 %
Magnesium (Mg)	$\leq 0.005 \%$	0.003 %
Sodium (Na)	$\leq 0.05 \%$	0.03 %
Lead (Pb)	$\leq 0.002 \%$	$< 0.001 \%$
pH	6.0 - 7.0	6.1
Sulfate (SO ₄)	$\leq 0.005 \%$	$< 0.005 \%$
Complexometric EDTA	98.0 - 101.0 %	100.3 %
Meets ACS Requirements	Meets Requirements	Meets Requirements


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.



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:

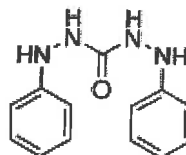
C₁₃H₁₄N₄O

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.



**RICCA CHEMICAL COMPANY®**

W 3005

REC- 1/31/23

12

1490 Lammers Pike

Batesville, IN 47006

<http://www.riccachemical.com>

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customerservice@riccachemical.com

Certificate of Analysis

Buffer, Reference Standard, pH 2.00 ± 0.01 at 25°C**Lot Number: 4212E45****Product Number: 1493****Manufacture Date: DEC 20, 2022****Expiration Date: DEC 2024**

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	10	15	20	25	30	35	40	45	50
pH	1.93	1.98	1.98	2.00	2.01	2.03	2.03	2.04	2.04

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Chloride	7447-40-7	ACS
Hydrochloric Acid	7647-01-0	ACS

Test	Specification	Result
Appearance	Colorless liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	2.000	0.02	185i, 186-I-g, 186-II-g

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1493-1	4 L natural poly	24 months
1493-16	500 mL natural poly	24 months
1493-32	1 L natural poly	24 months
1493-5	20 L Cubitainer®	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (12/20/2022)

Production Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

**RICCA CHEMICAL COMPANY®**

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Certificate of Analysis

W3093
004121
04/03/2024
16

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)**Lot Number:** 4401F99**Product Number:** 1551**Manufacture Date:** JAN 08, 2024**Expiration Date:** DEC 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	0	5	10	15	20	25	30	35	40	45	50
pH	7.12	7.09	7.06	7.04	7.02	7.00	6.99	6.98	6.98	6.97	6.97

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Phosphate Dibasic	7558-79-4	ACS
Potassium Dihydrogen Phosphate	7778-77-0	ACS
Preservative	Proprietary	
Yellow Dye	Proprietary	
Sodium Hydroxide	1310-73-2	

Test	Specification	Result
Appearance	Yellow liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	7.004	0.02	186-I-g, 186-II-g, 191d

Specification	Reference
Commercial Buffer Solutions	ASTM (D 1293 B)
Buffer A	ASTM (D 5464)
Buffer A	ASTM (D 5128)

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1551-1	4 L natural poly	24 months
1551-1CT	4 L Cubitainer®	24 months
1551-2.5	10 L Cubitainer®	24 months
1551-5	20 L Cubitainer®	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (01/08/2024)

Production Manager

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Certificate of Analysis

Buffer, Reference Standard, pH 10.00 ± 0.01 at 25°C (Color Coded Blue)

Lot Number: 4310G83

Product Number: 1601

Manufacture Date: OCT 09, 2023

Expiration Date: MAR 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	0	5	10	15	20	25	30	35	40	50
pH	10.31	10.23	10.17	10.11	10.05	10.00	9.95	9.91	9.87	9.81

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Carbonate	497-19-8	ACS
Sodium Bicarbonate	144-55-8	ACS
Sodium Hydroxide	1310-73-2	Reagent
Preservative	Proprietary	
Blue Dye	Proprietary	

Test	Specification	Result
Appearance	Blue liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	10.003	0.02	186-I-g, 186-II-g, 191d

Specification	Reference
Commercial Buffer Solutions	ASTM (D 1293 B)
Buffer C	ASTM (D 5464)
Buffer C	ASTM (D 5128)

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1601-16	500 mL natural poly	18 months
1601-5	20 L Cubitainer®	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (10/09/2023)

Production Manager

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Certificate of Analysis

Sodium Thiosulfate, 0.0250 Normal (N/40)

Lot Number: 4403S13

Product Number: 7900

Manufacture Date: MAR 29, 2024

Expiration Date: SEP 2025

This product is specially formulated to increase its stability. A preservative is added to prevent bacterial contamination. However, all Sodium Thiosulfate solutions are subject to slow chemical deterioration and should be restandardized periodically.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Thiosulfate Pentahydrate	10102-17-7	ACS
Organic Preservative	Proprietary	
Sodium Carbonate	497-19-8	ACS

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Assay (vs. Potassium Iodate/Starch)	0.02499-0.02501 N at 20°C	0.02501 N at 20°C	136

Specification	Reference
Standard Sodium Thiosulfate Solution, 0.0250 N	APHA (4500-S2- F)
Standard Sodium Thiosulfate Titrant	APHA (4500-O D)
Standard Sodium Thiosulfate Titrant	APHA (4500-O E)
Standard Sodium Thiosulfate Titrant	APHA (4500-O F)
Standard Sodium Thiosulfate Titrant, 0.025 N	APHA (4500-CI B)
Standard Sodium Thiosulfate Titrant	APHA (4500-O C)
Standard Sodium Thiosulfate Titrant, 0.025 M	APHA (5530 C)
Standard Sodium Thiosulfate Solution (0.025 N)	EPA (SW-846) (9031)
Standard Sodium Thiosulfate solution (0.025 N)	EPA (SW-846) (9034)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
7900-1	4 L natural poly	18 months
7900-16	500 mL natural poly	18 months
7900-1CT	4 L Cubitainer®	18 months
7900-32	1 L natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (03/29/2024)

Production Manager

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Certificate of Analysis

Buffer, Reference Standard, pH 4.00 ± 0.01 at 25°C (Color Coded Red)

Lot Number: 4403F90

Product Number: 1501

Manufacture Date: MAR 09, 2024

Expiration Date: FEB 2026

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST Traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	0	5	10	15	20	25	30	35	40	45	50
pH	4.00	4.00	4.00	4.00	4.00	4.00	4.01	4.02	4.03	4.04	4.06

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Acid Phthalate	877-24-7	Buffer
Preservative	Proprietary	Commercial
Red Dye	Proprietary	Purified

Test	Specification	Result
Appearance	Red liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	4.000	0.02	185i, 186-I-g, 186-II-g

Specification	Reference
Commercial Buffer Solutions	ASTM (D 1293 B)
Buffer B	ASTM (D 5464)
Buffer B	ASTM (D 5128)

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1501-2.5	10 L Cubitainer®	24 months
1501-32	1 L natural poly	24 months
1501-5	20 L Cubitainer®	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (03/09/2024)

Production Manager

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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.

Certificate of Analysis

Iodine (Iodine-Iodide), 0.0250 Normal (N/40), 1 mL = 0.4008 mg S²⁻**Lot Number:** 2405D89**Product Number:** 3975**Manufacture Date:** MAY 10, 2024**Expiration Date:** MAY 2025

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Iodide	7681-11-0	ACS
Iodine	7553-56-2	ACS

Test	Specification	Result	NIST SRM#
Appearance	Dark brown liquid	Passed	
Assay (vs. Sodium Thiosulfate/Starch)	0.02498-0.02502 N at 20°C	0.02502 N at 20°C	136

Specification	Reference
Standard Iodine Solution, 0.0250 N	APHA (4500-S2- F)
Iodine Solution (approximately 0.025 N)	EPA (SW-846) (9031)
Standard Iodine Solution, 0.0250 N	EPA (376.1)
Iodine Solution (approximately 0.025 N)	EPA (SW-846) (9034)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
3975-1	4 L amber glass	12 months
3975-16	500 mL amber glass	12 months
3975-32	1 L amber glass	12 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Jose Pena (05/10/2024)
Operations Manager

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Part of TCP Analytical Group

Jackson's Pointe Commerce Park- Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063

Certificate of Analysis

Cyanide Standard 1000 ppm (1ml = 1mg CN)

Product Code: **LC13545**

Manufacture Date: August 01, 2024

Lot Number: **44080060**

Expiration Date: January 30, 2025

Test	Specification	Result
Appearance (clarity)	clear solution	clear solution
Appearance (color)	colorless	colorless
Concentration (CN)	0.990 - 1.010mg/mL	1.008mg/mL
Concentration (CN)	990 - 1,010ppm	1,008ppm
Traceable to NIST SRM	Report	999b

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

The suffix of the product code may differ from what is on your product label. The suffix will designate the size and be associated with a numeric digit(s). Visit LabChem.com for more information

Suffix	1	2	3/3S/36/36S	4/4C	5	6	7	8	9	20	44	200	246	486
Size	500mL or g	1L or 1kg	2.5L/2.5L Coated/6x2.5L/6x2.5L Coated	4L	20L	10L	125mL	25g	100g	20x20mL	4x4L	200L	24x6mL	48x6mL

Michael Monteleone

Michael Monteleone
Chemistry Supervisor - Quality Control

ISO9001:2015 Registration #0306-01

2024080113:32:16bsturges-0-0

W3139 Received on 9/9/24 by IZ

Product No.: A12044
Product: Chloramine-T trihydrate, 98%
Lot No.: 10239484

Appearance:	White powder
Melting Point:	166°C(dec)
Assay (Iodometric titration):	100.5%
Identification (FTIR):	Conforms

Order our products online thermofisher.com/chemicals

This document has been electronically generated and does not require a signature.

Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third party data or information associated with the product. Products are for research and development use only. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.

Certificate of Analysis

Cyanide Standard, 1000 ppm CN⁻

Lot Number: 1405J81

Product Number: 2543

Manufacture Date: MAY 20, 2024

Expiration Date: NOV 2024

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certified traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.

Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard. Restandardize weekly if extreme accuracy is required.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Cyanide	151-50-8	ACS
Sodium Hydroxide	1310-73-2	Reagent

Test	Specification	Result
Appearance	Colorless liquid	Passed
Cyanide (CN ⁻)	995-1005 ppm	1000 ppm

Specification	Reference
Stock Standard Cyanide Solution	APHA (4500-CN- F)
Stock Cyanide Solution	APHA (4500-CN- E)
Stock Cyanide Solution	APHA (4500-CN- K)
Stock Cyanide Solution	APHA (4500-CN- H)
Cyanide Reference Solution (1000 mg/L)	EPA (SW-846) (7.3.3.2)
Cyanide Calibration Stock Solution (1,000 mg/L CN ⁻)	EPA (SW-846) (9213)
Stock Cyanide Solution	EPA (335.3)
Stock Cyanide Solution	EPA (335.2)
Cyanide Solution Stock	ASTM (D 4282)
Simple Cyanide Solution, Stock (1.0 g/L CN ⁻)	ASTM (D 4374)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
2543-16	500 mL amber poly	6 months
2543-4	120 mL amber poly	6 months

Recommended Storage: 2°C - 8°C (36°F - 46°F)



Heidi J Green (05/20/2024)
Operations Manager

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Certificate of Analysis

Starch Indicator, 0.5% (w/v), Mercury Free, for Iodometric Titrations

Lot Number: 4408P62

Product Number: 8000

Manufacture Date: AUG 28, 2024

Expiration Date: AUG 2026

This product is Mercury-free.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Starch, soluble	9005-84-9	ACS
Salicylic Acid	69-72-7	ACS

Test	Specification	Result
Appearance	White translucent liquid	Passed
Suitability for Use	Colorless (Iodine absent) - Blue (Iodine present)	Passed

Specification	Reference
Starch Solution	APHA (4500-S2- F)
Starch Indicator Solution	APHA (4500-CI B)
Starch Indicator	APHA (4500-SO32- B)
Starch indicator solution	APHA (2350 B)
Starch indicator solution	APHA (2350 E)
Starch Solution	APHA (510 B)
Starch Solution	APHA (5530 C)
Starch Indicator	APHA (4500-CI C)
Starch Indicator	EPA (345.1)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
8000-1	4 L natural poly	24 months
8000-16	500 mL natural poly	24 months
8000-32	1 L natural poly	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

A handwritten signature in blue ink that reads "Paul Brandon". The signature is fluid and cursive, with the first name "Paul" and last name "Brandon" clearly distinguishable.

Paul Brandon (08/28/2024)
Production Manager

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 11/19/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 17:00
In Date: 11/18/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:11
Out Date: 11/19/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB133489

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
P4817-01	BHK70	1	1.15	8.80	9.95	9.07	90.0	
P4817-02	BHK71	2	1.14	8.42	9.56	8.62	88.8	
P4817-03	BHK71MS	3	1.14	8.42	9.56	8.62	88.8	
P4817-04	BHK71MSD	4	1.14	8.42	9.56	8.62	88.8	
P4888-01	01A-01B-01C	5	1.00	1.00	2.00	2.00	100.0	caluk
P4888-02	02A-02B-02C	6	1.00	1.00	2.00	2.00	100.0	caluk
P4890-06	D3721	7	1.00	1.00	2.00	2.00	100.0	debris
P4892-01	WB-310-TOP	8	1.16	8.74	9.9	6.39	59.8	
P4892-02	WB-310-BOT	9	1.15	8.70	9.85	8.64	86.1	
P4893-01	MH-763	10	1.18	8.44	9.62	8.52	87.0	
P4893-02	MH-763-EPH	11	1.14	8.78	9.92	8.81	87.4	
P4893-03	MH-763-VOC	12	1.14	8.83	9.97	8.92	88.1	
P4893-05	MH-762	13	1.16	8.47	9.63	8.68	88.8	
P4893-06	MH-762-EPH	14	1.19	8.65	9.84	8.72	87.1	
P4893-07	MH-762-VOC	15	1.13	8.50	9.63	8.39	85.4	
P4894-01	FES-SB401-1921	16	1.16	8.58	9.74	8.92	90.4	
P4894-02	FES-SB401-6062	17	1.18	8.77	9.95	7.77	75.1	
P4894-03	FES-DUP02-20241114	18	1.15	8.66	9.81	9.17	92.6	
P4908-01	SP-1	19	1.16	8.50	9.66	8.9	91.1	
P4908-02	SP-1-E2	20	1.17	8.54	9.71	8.9	90.5	
P4908-03	SP-2	21	1.16	8.76	9.92	9.22	92.0	
P4908-04	SP-2-E2	22	1.16	8.45	9.61	8.9	91.6	
P4909-01	BU-02-111824	23	1.15	8.74	9.89	9.43	94.7	
P4909-02	BU-02-111824	24	1.16	8.72	9.88	9.09	90.9	
P4910-01	MH-COTTAGE	25	1.15	8.79	9.94	8.87	87.8	
P4910-02	MH-COTTAGE-EPH	26	1.19	8.41	9.6	8.44	86.2	
P4910-03	MH-COTTAGE-VOC	27	1.19	8.67	9.86	8.81	87.9	
P4910-05	MH-759	28	1.11	8.80	9.91	8.85	88.0	



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 11/19/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 17:00
In Date: 11/18/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:11
Out Date: 11/19/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB133489

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
P4910-06	MH-759-EPH	29	1.15	8.82	9.97	9.09	90.0	
P4910-07	MH-759-VOC	30	1.15	8.40	9.55	8.57	88.3	

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

WORKLIST(Hardcopy Internal Chain)

123489

WorkList Name : %1-111824

WorkList ID : 185509

Department : Wet-Chemistry

Date : 11-18-2024 08:23:47

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4817-01	BHK70	Solid	Percent Solids	Cool 4 deg C	USEP04	Q11	11/11/2024	Chemtech -SO
P4817-02	BHK71	Solid	Percent Solids	Cool 4 deg C	USEP04	Q11	11/11/2024	Chemtech -SO
P4817-03	BHK71MS	Solid	Percent Solids	Cool 4 deg C	USEP04	Q11	11/11/2024	Chemtech -SO
P4817-04	BHK71MSD	Solid	Percent Solids	Cool 4 deg C	USEP04	Q11	11/11/2024	Chemtech -SO
P4888-01	01A-01B-01C	Solid	Percent Solids	Cool 4 deg C	BSIG01	M11	11/11/2024	Chemtech -SO
P4888-02	02A-02B-02C	Solid	Percent Solids	Cool 4 deg C	BSIG01	M11	11/14/2024	Chemtech -SO
P4890-06	D3721	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4892-01	WB-310-TOP	Solid	Percent Solids	Cool 4 deg C	PORT06	M11	11/15/2024	Chemtech -SO
P4892-02	WB-310-BOT	Solid	Percent Solids	Cool 4 deg C	PORT06	M11	11/15/2024	Chemtech -SO
P4893-01	MH-763	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	11/16/2024	Chemtech -SO
P4893-02	MH-763-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	11/16/2024	Chemtech -SO
P4893-03	MH-763-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	11/16/2024	Chemtech -SO
P4893-05	MH-762	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	11/16/2024	Chemtech -SO
P4893-06	MH-762-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	11/16/2024	Chemtech -SO
P4893-07	MH-762-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	11/16/2024	Chemtech -SO
P4894-01	FES-SB401-1921	Solid	Percent Solids	Cool 4 deg C	TETRO6	L51	11/14/2024	Chemtech -SO
P4894-02	FES-SB401-6062	Solid	Percent Solids	Cool 4 deg C	TETRO6	L51	11/14/2024	Chemtech -SO
P4894-03	FES-DUP02-20241114	Solid	Percent Solids	Cool 4 deg C	TETRO6	L51	11/14/2024	Chemtech -SO
P4908-01	SP-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	11/18/2024	Chemtech -SO
P4908-02	SP-1-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	11/18/2024	Chemtech -SO
P4908-03	SP-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	11/18/2024	Chemtech -SO

Date/Time 11-18-24 15:30

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

Date/Time 11-18-24

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

WORKLIST(Hardcopy Internal Chain)

8133489

WorkList Name : %1-111824

WorkList ID : 185509

Department : Wet-Chemistry

Date : 11-18-2024 08:23:47

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4908-04	SP-2-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	11/18/2024	Chemtech -SO
P4909-01	BU-02-111824	Solid	Percent Solids	Cool 4 deg C	PSEG05	L51	11/18/2024	Chemtech -SO
P4909-02	BU-02-111824	Solid	Percent Solids	Cool 4 deg C	PSEG05	L51	11/18/2024	Chemtech -SO
P4910-01	MH-COTTAGE	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/18/2024	Chemtech -SO
P4910-02	MH-COTTAGE-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/18/2024	Chemtech -SO
P4910-03	MH-COTTAGE-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/18/2024	Chemtech -SO
P4910-05	MH-759	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/18/2024	Chemtech -SO
P4910-06	MH-759-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/18/2024	Chemtech -SO
P4910-07	MH-759-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	11/18/2024	Chemtech -SO

Date/Time 11-18-24 15:30

Raw Sample Received by: 88 CWCJ

Raw Sample Relinquished by: 88 CWCJ

Date/Time 11-18-24

Raw Sample Received by: 88 CWCJ

Raw Sample Relinquished by: 88 CWCJ



SHIPPING DOCUMENTS

CHEMTECH

CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092

(908) 789-8900 • Fax (908) 789-8922

www.chemtech.net

CHEMTECH PROJECT NO. P4891/P4892
QUOTE NO.
COC Number 2042035

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Gannett Fleming
ADDRESS: 1010 Adams Avenue
CITY: Andover STATE: PA ZIP: 17003
ATTENTION: Joe Kupansky
PHONE: 610-301-8362 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: Antioch's replacement of Sawtooth Bridge
PROJECT NO.: 950000878 LOCATION: Keamy, NJ
PROJECT MANAGER: Joe Kupansky
e-mail: ben@bemis.com
PHONE: 610-301-8362 FAX:

CLIENT BILLING INFORMATION

BILL TO: Chem Alliance/chemtech PO#:
ADDRESS: 984 Sheffield St
CITY: Mountainside STATE: NJ ZIP: 07093
ATTENTION: PHONE:

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 DAYS

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 PA VOC TO 2 ICX PAH 3 ICX Metals 4 PCB S 5 ALV. ALV. EPH 6 FILED ICAP 7 PCRA PARA 8 TOX 9

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES									COMMENTS	
			COMP	GRAB	DATE	TIME		A	B	F							← Specify Preservatives A-HCl B-HNO3 C-H2SO4	D-NaOH E-ICE F-OTHER
1.	WB-310-SW	GW	X		11/15	8:05	7	X	X	X	X	X						
2.	WB-310-Top	S	X		11/15	9:00	10	X	X	X	X	X						
3.	WB-310-Bot.	S	X		11/15	12:30	9	X	X	X	X	X	X	X	X			
4.	TB-1152024	DTW			11/15	LAB	2	X										
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP _____ °C
1. <u>Vennola</u>	<u>11/15 5:02pm</u>	<u>[Signature]</u> <u>11-15-24</u>	Comments: _____
RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:	
2.		2.	
RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:	
3. <u>[Signature]</u>	<u>11-15-24</u>	3.	

Page _____ of _____

CLIENT: ☐ Hand Delivered ☐ Other _____
CHEMTECH: ☐ Picked Up ☐ Field Sampling

Shipment Complete
☐ YES ☐ NO



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 (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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : P4892	PORT06	Order Date : 11/18/2024 8:10:00 AM	Project Mgr : Kiran
Client Name : Portal Partners Tri-Venture		Project Name : Amtrak Sawtooth Bridges 2	Report Type : NJ Reduced
Client Contact : Joseph Krupansky		Receive DateTime : 11/15/2024 5:45:00 PM	EDD Type : EXCEL NJCLEANUP
Invoice Name : Portal Partners Tri-Venture		Purchase Order :	Hard Copy Date :
Invoice Contact : Joseph Krupansky			Date Signoff : 11/18/2024 12:55:05 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
P4892-01	WB-310-TOP	Solid	11/15/2024	09:00					
					VOC-TCLVOA-10		8260D	10 Bus. Days	
P4892-02	WB-310-BOT	Solid	11/15/2024	12:30					
					VOC-TCLVOA-10		8260D	10 Bus. Days	
P4892-04	WB-310-SW	Water	11/15/2024	08:05					
					VOC-TCLVOA-10		8260-Low	10 Bus. Days	

Relinquished By : 

Date / Time : 11-18-24 1322

Received By : 

Date / Time : 11/18/24 1372

Storage Area : VOA Refridgerator Room