

DATA PACKAGE GENERAL CHEMISTRY

PROJECT NAME : FORT MEADE MD TIPTON AIRFIELD PARCEL RI - 0111169

WESTON SOLUTIONS

1400 Weston Way

PO Box 2653

West Chester, PA - 19380

Phone No: 610-701-7400

ORDER ID : Q1569

ATTENTION : Nathan Fretz



Laboratory Certification ID # 20012



1) GENERAL CHEMISTRY DATA	2
2) Signature Page	3
3) Case Narrative	4
4) Qualifier Page	5
5) Conformance/Non Conformance	6
6) QA Checklist	7
7) Chronicle	8
8) Sample Data	9
8.1) TAP-IDW-SOIL-031325-01	10
8.2) TAP-IDW-SOIL-031325-02	11
9) QC Data Summary For Genchem	12
9.1) Initial and Continuing Calibration Verification	13
9.2) Initial and Continuing Calibration Blank Summary	16
9.3) Preparation Blank Summary	18
9.4) Matrix Spike Summary	19
9.5) Duplicate Sample Summary	25
9.6) Laboratory Control Sample Summary	33
10) GENCHEM RAW DATA	36
10.1) GENCHEM RAW DATA - ANALYTICAL	37
10.1.1) LB135032	37
10.1.2) LB135039	39
10.1.3) LB135044	41
10.1.4) LB135093	44
10.1.5) LB135124	45
10.2) GENCHEM RAW DATA - PREP	48
10.2.1) PB167142	48
10.2.2) PB167200	52
10.2.3) PB167244	54
11) Analytical Runlogs	57
12) Standard Prep Logs	64
13) Percent Solid	122
14) Shipping Document	127
14.1) Chain Of Custody	128
14.2) Lab Certificate	129

Cover Page

Order ID : Q1569

Project ID : Fort Meade MD Tipton Airfield Parcel RI - 0111169

Client : Weston Solutions

Lab Sample Number

Q1569-01
Q1569-02
Q1569-04
Q1569-05

Client Sample Number

TAP-IDW-SOIL-031325-01
TAP-IDW-SOIL-031325-01
TAP-IDW-SOIL-031325-02
TAP-IDW-SOIL-031325-02

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

Signature : _____

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 3:32 pm, Mar 27, 2025

Date: 3/24/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

CASE NARRATIVE

Weston Solutions

Project Name: Fort Meade MD Tipton Airfield Parcel RI - 0111169

Project # N/A

Chemtech Project # Q1569

Test Name: pH,Cyanide,Sulfide,Ignitability

A. Number of Samples and Date of Receipt:

4 Solid samples were received on 03/14/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Cyanide, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, PCB, pH, Sulfide, TCLP BNA, TCLP Extraction, TCLP Herbicide, TCLP ICP Metals, TCLP Mercury, TCLP METALS, TCLP Pesticide, TCLP VOA and TCLP ZHE Extraction. This data package contains results for pH,Cyanide,Sulfide,Ignitability.

C. Analytical Techniques:

The analysis of Ignitability was based on method 1030, The analysis of Cyanide was based on method 9012B, The analysis of Sulfide was based on method 9034 and The analysis of pH was based on method 9045D.

D. QA/ QC Samples:

The Holding Times were met for all samples except for TAP-IDW-SOIL-031325-01 of pH, for TAP-IDW-SOIL-031325-02 of pH as these samples are received out of holding time.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike analysis met criteria for all samples.

The Matrix Spike Duplicate analysis met criteria for all samples.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

E. Additional Comments:

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

Signature_____

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 3:32 pm, Mar 27, 2025

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

GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: Q1569

MATRIX: Solid

METHOD: 1030,9012B,9034,9045D

	NA	NO	YES
1. Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
2. Matrix Spike Duplicate Recoveries Met Criteria			✓
If not met, list those compounds and their recoveries which fall outside the acceptable range.			
The Blank Spike met requirements for all samples.			
3. Sample Duplicate Analysis Met QC Criteria			✓
If not met, list those compounds and their recoveries which fall outside the acceptable range.			
4. Digestion Holding Time Met		✓	
If not met, list number of days exceeded for each sample:			
The Holding Times were met for all samples except for TAP-IDW-SOIL-031325-01 of pH, for TAP-IDW-SOIL-031325-02 of pH as these samples are received out of holding time.			

ADDITIONAL COMMENTS:

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 3:32 pm, Mar 27, 2025

QA REVIEW

Date

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1569

Completed

For thorough review, the report must have the following:

GENERAL:

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

✓

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

✓

Is the chain of custody signed and complete

✓

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

✓

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

✓

COVER PAGE:

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

✓

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

✓

CHAIN OF CUSTODY:

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

✓

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

✓

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

✓

Were the samples received within hold time

✓

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

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: SOHIL JODHANI

Date: 03/24/2025

LAB CHRONICLE

OrderID:	Q1569	OrderDate:	3/14/2025 10:44:00 AM
Client:	Weston Solutions	Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169
Contact:	Nathan Fretz	Location:	I31,I33

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1569-01	TAP-IDW-SOIL-03132 5-01	SOIL			03/13/25 10:20	03/14/25	03/14/25 16:42	03/14/25
			Cyanide	9012B				
			Ignitability	1030				
			pH	9045D				
			Sulfide	9034		03/19/25	03/19/25 15:51	
Q1569-04	TAP-IDW-SOIL-03132 5-02	SOIL			03/13/25 10:50	03/20/25	03/21/25 10:48	03/14/25
			Cyanide	9012B				
			Ignitability	1030				
			pH	9045D			03/14/25 12:31	
			Sulfide	9034		03/19/25	03/19/25 15:20	



SAMPLE DATA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Report of Analysis

Client:	Weston Solutions	Date Collected:	03/13/25 10:20
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Date Received:	03/14/25
Client Sample ID:	TAP-IDW-SOIL-031325-01	SDG No.:	Q1569
Lab Sample ID:	Q1569-01	Matrix:	SOIL
		% Solid:	76.6

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.26	U	1	0.054	0.26	0.32	mg/Kg	03/14/25 10:45	03/14/25 16:42	9012B
Ignitability	NO		1	0	0	0	oC		03/14/25 12:24	1030
pH	6.67	H	1	0	0	0	pH		03/14/25 15:10	9045D
Sulfide	4.14	J	1	2.60	6.48	13.0	mg/Kg	03/19/25 13:40	03/19/25 15:51	9034

Comments: pH result reported at temperature 21.4 °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:	Weston Solutions	Date Collected:	03/13/25 10:50
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Date Received:	03/14/25
Client Sample ID:	TAP-IDW-SOIL-031325-02	SDG No.:	Q1569
Lab Sample ID:	Q1569-04	Matrix:	SOIL
		% Solid:	73.3

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.26	U	1	0.054	0.26	0.32	mg/Kg	03/20/25 10:00	03/21/25 10:48	9012B
Ignitability	NO		1	0	0	0	oC		03/14/25 12:31	1030
pH	10.2	H	1	0	0	0	pH		03/14/25 15:20	9045D
Sulfide	6.79	U	1	2.73	6.79	13.6	mg/Kg	03/19/25 13:40	03/19/25 16:03	9034

Comments: pH result reported at temperature 21.5 °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



QC RESULT SUMMARY

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Initial and Continuing Calibration Verification

Client: Weston Solutions

SDG No.: Q1569

Project: Fort Meade MD Tipton Airfield Parcel RI - 0111169

RunNo.: LB135039

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV pH	pH	6.99	7	100	90-110	03/14/2025
Sample ID: CCV1 pH	pH	2.01	2.00	101	90-110	03/14/2025
Sample ID: CCV2 pH	pH	12.02	12.00	100	90-110	03/14/2025

Initial and Continuing Calibration Verification

Client: Weston Solutions

SDG No.: Q1569

Project: Fort Meade MD Tipton Airfield Parcel RI - 0111169

RunNo.: LB135044

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 Cyanide	mg/L	0.093	0.099	94	90-110	03/14/2025
Sample ID: CCV1 Cyanide	mg/L	0.24	0.25	96	90-110	03/14/2025
Sample ID: CCV2 Cyanide	mg/L	0.24	0.25	96	90-110	03/14/2025
Sample ID: CCV3 Cyanide	mg/L	0.25	0.25	100	90-110	03/14/2025

Initial and Continuing Calibration Verification

Client: Weston Solutions

SDG No.: Q1569

Project: Fort Meade MD Tipton Airfield Parcel RI - 0111169

RunNo.: LB135124

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 Cyanide	mg/L	0.092	0.099	93	90-110	03/21/2025
Sample ID: CCV1 Cyanide	mg/L	0.23	0.25	92	90-110	03/21/2025
Sample ID: CCV2 Cyanide	mg/L	0.25	0.25	100	90-110	03/21/2025

Initial and Continuing Calibration Blank Summary

Client: Weston Solutions	SDG No.: Q1569
Project: Fort Meade MD Tipton Airfield Parcel RI - 0111169	RunNo.: LB135044

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	03/14/2025
Sample ID: CCB1 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	03/14/2025
Sample ID: CCB2 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	03/14/2025
Sample ID: CCB3 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	03/14/2025

Initial and Continuing Calibration Blank Summary

Client: Weston Solutions	SDG No.: Q1569
Project: Fort Meade MD Tipton Airfield Parcel RI - 0111169	RunNo.: LB135124

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	03/21/2025
Sample ID: CCB1 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	03/21/2025
Sample ID: CCB2 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	03/21/2025

Preparation Blank Summary

Client: Weston Solutions

SDG No.: Q1569

Project: Fort Meade MD Tipton Airfield Parcel RI - 0111169

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: Cyanide	PB167142BL mg/Kg	< 0.1250	0.1250	U	0.042	0.25	03/14/2025
Sample ID: Sulfide	PB167200BL mg/Kg	< 5.0000	5.0000	U	2.01	10.0	03/19/2025
Sample ID: Cyanide	PB167244BL mg/Kg	< 0.1250	0.1250	U	0.042	0.25	03/21/2025

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1549-01
Client ID:	72-11978MS	Percent Solids for Spike Sample:	89.4

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/Kg	75-125	2.00		0.045	U	2.2	1	91		03/14/2025

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1549-01
Client ID:	72-11978MSD	Percent Solids for Spike Sample:	89.4

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/Kg	75-125	2.10		0.045	U	2.2	1	96		03/14/2025

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1569-01
Client ID:	TAP-IDW-SOIL-031325-01MS	Percent Solids for Spike Sample:	76.6

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Sulfide	mg/Kg	75-125	264		4.14	J	326	1	80		03/19/2025

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1569-01
Client ID:	TAP-IDW-SOIL-031325-01MSD	Percent Solids for Spike Sample:	76.6

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Sulfide	mg/Kg	75-125	268		4.14	J	326	1	81		03/19/2025

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1569-04
Client ID:	TAP-IDW-SOIL-031325-02MS	Percent Solids for Spike Sample:	73.3

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/Kg	75-125	2.30		0.054	U	2.6	1	88		03/21/2025

Matrix Spike Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1569-04
Client ID:	TAP-IDW-SOIL-031325-02MSD	Percent Solids for Spike Sample:	73.3

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/Kg	75-125	2.30		0.054	U	2.6	1	88		03/21/2025

Duplicate Sample Summary

Client: Weston Solutions Project: Fort Meade MD Tipton Airfield Parcel RI - 0111169 Client ID: 72-11978DUP	SDG No.: Q1569 Sample ID: Q1549-01 Percent Solids for Spike Sample: 89.4
---	---

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	0.045	U	0.047	U	1	0		03/14/2025

Duplicate Sample Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1549-01
Client ID:	72-11978MSD	Percent Solids for Spike Sample:	89.4

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	2.00		2.10		1	5		03/14/2025

Duplicate Sample Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1568-01
Client ID:	JC-03-03132025DUP	Percent Solids for Spike Sample:	93

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		03/14/2025

Duplicate Sample Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1569-01
Client ID:	TAP-IDW-SOIL-031325-01DUP	Percent Solids for Spike Sample:	76.6

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Sulfide	mg/Kg	+/-20	4.14	J	4.14	J	1	0		03/19/2025

Duplicate Sample Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1569-01
Client ID:	TAP-IDW-SOIL-031325-01MSD	Percent Solids for Spike Sample:	76.6

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Sulfide	mg/Kg	+/-20	264		268		1	1.5		03/19/2025

Duplicate Sample Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1569-04
Client ID:	TAP-IDW-SOIL-031325-02DUP	Percent Solids for Spike Sample:	73.3

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	0.054	U	0.055	U	1	0		03/21/2025

Duplicate Sample Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1569-04
Client ID:	TAP-IDW-SOIL-031325-02MSD	Percent Solids for Spike Sample:	73.3

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	2.30		2.30		1	0		03/21/2025

Duplicate Sample Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Sample ID:	Q1574-01
Client ID:	WC1DUP	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
pH	pH	+/-20	6.76		6.77		1	0.15		03/14/2025

Laboratory Control Sample Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Run No.:	LB135044

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB167142BS							
Cyanide	mg/Kg	5	4.70		94	1	85-115	03/14/2025

Laboratory Control Sample Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Run No.:	LB135093

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB167200BS							
Sulfide	mg/Kg	250	216		86	1	80-120	03/19/2025

Laboratory Control Sample Summary

Client:	Weston Solutions	SDG No.:	Q1569
Project:	Fort Meade MD Tipton Airfield Parcel RI - 0111169	Run No.:	LB135124

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB167244BS							
Cyanide	mg/Kg	5	4.50		90	1	85-115	03/21/2025



RAW DATA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Analytical Summary Report

Analysis Method: 1030
Parameter: Ignitability
Run Number: LB135032

Reviewed By: rubina

Supervisor Review By: Iwona

Seq	LabID	ClientID	DF	matrix	Result Status	Burning Rate	Anal Date	Anal Time
1	Q1568-01	JC-03-03132025	1	Solid	NO	0.00	03/14/2025	12:00
2	Q1568-01DUP	JC-03-03132025DUP	1	Solid	NO	0.00	03/14/2025	12:08
3	Q1568-04	JC-03-03132025	1	Solid	NO	0.00	03/14/2025	12:16
4	Q1569-01	TAP-IDW-SOIL-031325	1	Solid	NO	0.00	03/14/2025	12:24
5	Q1569-04	TAP-IDW-SOIL-031325	1	Solid	NO	0.00	03/14/2025	12:31
6	Q1574-02	WC1	1	Solid	NO	0.00	03/14/2025	12:38

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

WORKLIST(Hardcopy Internal Chain)

WorkList Name : ign3-14

WorkList ID : 188274

Department : Wet-Chemistry

Date : 03-14-2025 08:34:26

LB135032

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1568-01 C ₇	JC-03-03132025	Solid	Ignitability	Cool 4 deg C	PSEG03	I41	03/13/2025	1030
Q1568-04 B	JC-03-03132025	Solid	Ignitability	Cool 4 deg C	PSEG03	I41	03/13/2025	1030
Q1569-01 C	TAP-IDW-SOIL-031325-01	Solid	Ignitability	Cool 4 deg C	WEST04	I33	03/13/2025	1030
Q1569-04 B	TAP-IDW-SOIL-031325-02	Solid	Ignitability	Cool 4 deg C	WEST04		03/13/2025	1030
Q1574-02 B	WC1	Solid	Ignitability	Cool 4 deg C	GENV01	I41	03/12/2025	1030

Date/Time 03/14/2025 11:45
Raw Sample Received by: RM cwc
Raw Sample Relinquished by: JH (OC)

Date/Time 03/14/2025 13:00
Raw Sample Received by: JH (OC)
Raw Sample Relinquished by: JH (OC)

Analytical Summary Report

Analysis Method: 9045D

Analyst By : jignesh

Parameter: pH

Supervisor Review By : Iwona

Run Number: LB135039

Slope : 99.2

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)	W3161
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	20.2	4.01	03/14/2025	14:40
2	CAL2	1	Water	NA	NA	20.2	7.00	03/14/2025	14:41
3	CAL3	1	Water	NA	NA	20.2	10.02	03/14/2025	14:45
4	ICV	1	Water	NA	NA	20.1	6.99	03/14/2025	14:50
5	CCV1	1	Water	NA	NA	20.2	2.01	03/14/2025	15:00
6	Q1569-01	1	Solid	20.02	20	21.4	6.67	03/14/2025	15:10
7	Q1569-04	1	Solid	20.03	20	21.5	10.20	03/14/2025	15:20
8	Q1574-01	1	Solid	20.03	20	22.2	6.76	03/14/2025	15:35
9	Q1574-01DUP	1	Solid	20.04	20	22.3	6.77	03/14/2025	15:36
10	CCV2	1	Water	NA	NA	20.2	12.02	03/14/2025	15:40

WORKLIST(Hardcopy Internal Chain)

WorkList Name : ph q1574

WorkList ID : 188292

Department : Wet-Chemistry

Date : 03-14-2025 14:23:59

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1569-01	D TAP-IDW-SOIL-031325-01	Solid	pH	Cool 4 deg C	WEST04	I33	03/13/2025	9045D
Q1569-04	D TAP-IDW-SOIL-031325-02	Solid	pH	Cool 4 deg C	WEST04		03/13/2025	9045D
Q1574-01	WC1	Solid	pH	Cool 4 deg C	GENV01	I41	03/12/2025	9045D

Date/Time 03/14/25 14:30

Raw Sample Received by: AD WOCRaw Sample Relinquished by: CP SM

Date/Time 03/14/25

Raw Sample Received by: AD WOCRaw Sample Relinquished by: CP SM

Test results

Aquakem 7.2AQ1

Page:

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

3/14/2025 16:47

Reviewed by : NF

Instrument ID : Konelab

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	93.343	0.0	0.084	
ICB1	0.422	0.0	0.001	
CCV1	243.096	0.0	0.218	
CCB1	0.727	0.0	0.001	
PB167142BL	-0.003	0.0	0.001	
PB167142BS	93.231	0.0	0.084	
LOWPB167141	9.692	0.0	0.009	
HIGHPB167142	487.236	0.0	0.436	
Q1547-01	2.423	0.0	0.003	
Q1547-06	0.209	0.0	0.001	
Q1549-01	0.142	0.0	0.001	
Q1549-01DUP	-0.080	0.0	0.001	
Q1549-01MS	37.413	0.0	0.034	
Q1549-01MSD	38.332	0.0	0.035	
CCV2	242.711	0.0	0.217	
CCB2	0.032	0.0	0.001	
Q1552-01	0.145	0.0	0.001	
Q1569-01	-0.291	0.0	0.000	
CCV3	254.914	0.0	0.228	
CCB3	0.582	0.0	0.001	

N 20
Mean 75.214
SD 131.3127
CV% 174.59

96% (90 - 110) NF
97%
03/14/2025

Aquakem v. 7.2AQ1

Results from time period:

Fri Mar 14 16:27:13 2025

Fri Mar 14 16:46:42 2025

Sample Id	Sam/Ctr/c/	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPBCN	A	Total CN	P	0.68	µg/l	3/14/2025 15:15:24	
5.0PPBCN	A	Total CN	P	5.3131	µg/l	3/14/2025 15:15:25	
10PPBCN	A	Total CN	P	10.5088	µg/l	3/14/2025 15:15:26	
50PPBCN	A	Total CN	P	49.926	µg/l	3/14/2025 15:15:27	
100PPBCN	A	Total CN	P	99.5273	µg/l	3/14/2025 15:15:28	
250PPBCN	A	Total CN	P	247.9123	µg/l	3/14/2025 15:15:29	
500PPBCN	A	Total CN	P	501.1324	µg/l	3/14/2025 15:15:30	
ICV1	S	Total CN	P	93.3426	µg/l	3/14/2025 16:27:14	
ICB1	S	Total CN	P	0.4223	µg/l	3/14/2025 16:27:17	
CCV1	S	Total CN	P	243.0958	µg/l	3/14/2025 16:27:20	
CCB1	S	Total CN	P	0.7265	µg/l	3/14/2025 16:27:21	
PB167142BL	S	Total CN	P	-0.0034	µg/l	3/14/2025 16:27:23	
PB167142BS	S	Total CN	P	93.2306	µg/l	3/14/2025 16:34:49	
LOWPB167141	S	Total CN	P	9.6924	µg/l	3/14/2025 16:34:52	
HIGHPB167142	S	Total CN	P	487.2359	µg/l	3/14/2025 16:34:53	
Q1547-01	S	Total CN	P	2.4229	µg/l	3/14/2025 16:34:55	
Q1547-06	S	Total CN	P	0.2093	µg/l	3/14/2025 16:34:56	
Q1549-01	S	Total CN	P	0.1417	µg/l	3/14/2025 16:34:58	
Q1549-01DUP	S	Total CN	P	-0.0804	µg/l	3/14/2025 16:42:21	
Q1549-01MS	S	Total CN	P	37.4132	µg/l	3/14/2025 16:42:22	
Q1549-01MSD	S	Total CN	P	38.3319	µg/l	3/14/2025 16:42:25	
CCV2	S	Total CN	P	242.7114	µg/l	3/14/2025 16:42:26	
CCB2	S	Total CN	P	0.0318	µg/l	3/14/2025 16:42:27	
Q1552-01	S	Total CN	P	0.1453	µg/l	3/14/2025 16:42:28	
Q1569-01	S	Total CN	P	-0.2909	µg/l	3/14/2025 16:42:29	
CCV3	S	Total CN	P	254.9144	µg/l	3/14/2025 16:46:40	
CCB3	S	Total CN	P	0.5818	µg/l	3/14/2025 16:46:41	

Calibration results

Aquakem 7.2AQ1

Page: 1

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

3/14/2025 15:16

Reviewed by : NF

Instrument ID : Konelab

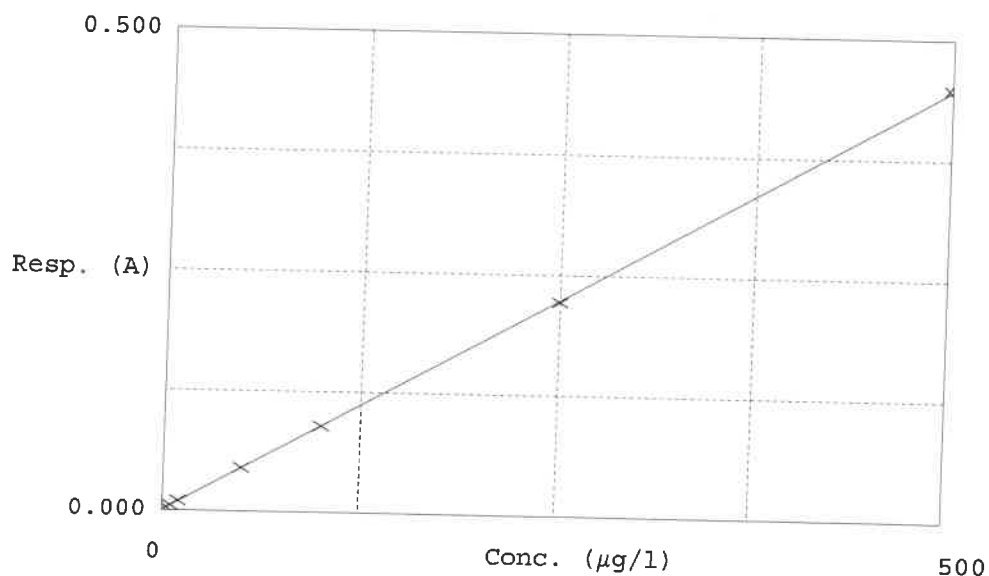
Test Total CN

Accepted 3/14/2025 15:16

Factor 1120
Bias 0.001

Coeff. of det. 0.999967

Errors



	Calibrator	Response	Calc. con.	Conc.	Re Errors
1	0.0PPBCN	0.001	0.6800	0.0000	-
2	5.0PPBCN	0.005	5.3131	5.0000	63
3	10PPBCN	0.010	10.5088	10.0000	51
4	50PPBCN	0.045	49.9260	50.0000	-0.1
5	100PPBCN	0.089	99.5273	100.0000	-0.5
6	250PPBCN	0.222	247.9123	250.0000	-0.8
7	500PPBCN	0.448	501.1324	500.0000	0.2

NF

03/14/2025

Analytical Summary Report

Analysis Method: 9034
Parameter: Sulfide
Run Number: LB135093

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)	AnalDate	Anal Time
1	PB167200BL		1	5.00	50	5.00	0.00	4.96	4.96	0.04	0.00	0.00	03/19/2025	15:45
2	PB167200BS	250	1	5.00	50	5.00	0.00	2.26	2.26	2.74	2.70	216.00	03/19/2025	15:48
3	Q1569-01		1	5.04	50	5.00	0.00	4.92	4.92	0.08	0.04	3.17	03/19/2025	15:51
4	Q1569-01DUP		1	5.04	50	5.00	0.00	4.92	4.92	0.08	0.04	3.17	03/19/2025	15:54
5	Q1569-01MS	250	1	5.03	50	5.00	0.00	2.42	2.42	2.58	2.54	201.99	03/19/2025	15:57
6	Q1569-01MSD	250	1	5.03	50	5.00	0.00	2.38	2.38	2.62	2.58	205.17	03/19/2025	16:00
7	Q1569-04		1	5.02	50	5.00	0.00	4.94	4.94	0.06	0.02	1.59	03/19/2025	16:03

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

Test results

Aquakem 7.2AQ1

Page:

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

3/21/2025 10:54

Reviewed by : NF

Instrument ID : Konelab

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	91.811	0.0	0.082	
ICB1	-0.167	0.0	0.001	
CCV1	232.240	0.0	0.207	
CCB1	0.852	0.0	0.001	
PB167244BL	0.072	0.0	0.001	
PB167244BS	89.281	0.0	0.080	
LOWPB167244	9.672	0.0	0.009	
HIGHPB167244	489.586	0.0	0.436	
Q1569-04	-0.102	0.0	0.001	
Q1569-04DUP	-0.261	0.0	0.000	
Q1569-04MS	34.896	0.0	0.032	
Q1569-04MSD	35.585	0.0	0.032	
CCV2	252.586	0.0	0.225	
CCB2	0.407	0.0	0.001	

96% (90-110) NF
97% 03.21.2025

N 14
Mean 88.318
SD 143.3678
CV% 162.33

Aquakem v. 7.2AQ1

Results from time period:

Fri Mar 21 09:55:03 2025

Fri Mar 21 10:53:57 2025

Sample Id	Sam/Ctr/c	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPBCN	A	Total CN	P	-0.2319	µg/l	3/21/2025 10:11:30	
5.0PPBCN	A	Total CN	P	5.1211	µg/l	3/21/2025 10:11:31	
10PPBCN	A	Total CN	P	9.5015	µg/l	3/21/2025 10:11:32	
50PPBCN	A	Total CN	P	48.9961	µg/l	3/21/2025 10:11:33	
100PPBCN	A	Total CN	P	97.0379	µg/l	3/21/2025 10:11:34	
250PPBCN	A	Total CN	P	257.7473	µg/l	3/21/2025 10:11:35	
500PPBCN	A	Total CN	P	496.8279	µg/l	3/21/2025 10:11:36	
ICV1	S	Total CN	P	91.8107	µg/l	3/21/2025 10:41:03	
ICB1	S	Total CN	P	-0.1667	µg/l	3/21/2025 10:41:05	
CCV1	S	Total CN	P	232.2403	µg/l	3/21/2025 10:41:07	
CCB1	S	Total CN	P	0.8523	µg/l	3/21/2025 10:41:08	
PB167244BL	S	Total CN	P	0.0717	µg/l	3/21/2025 10:41:11	
PB167244BS	S	Total CN	P	89.281	µg/l	3/21/2025 10:48:37	
LOWPB167244	S	Total CN	P	9.6716	µg/l	3/21/2025 10:48:39	
HIGHPB167244	S	Total CN	P	489.5855	µg/l	3/21/2025 10:48:41	
Q1569-04	S	Total CN	P	-0.1023	µg/l	3/21/2025 10:48:43	
Q1569-04DUP	S	Total CN	P	-0.261	µg/l	3/21/2025 10:48:45	
Q1569-04MS	S	Total CN	P	34.8959	µg/l	3/21/2025 10:48:47	
Q1569-04MSD	S	Total CN	P	35.5852	µg/l	3/21/2025 10:53:53	
CCV2	S	Total CN	P	252.5864	µg/l	3/21/2025 10:53:55	
CCB2	S	Total CN	P	0.4065	µg/l	3/21/2025 10:53:56	

Calibration results

Aquakem 7.2AQ1

Page: 1

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

3/21/2025 10:13

Reviewed by : NF

Instrument ID : Konelab

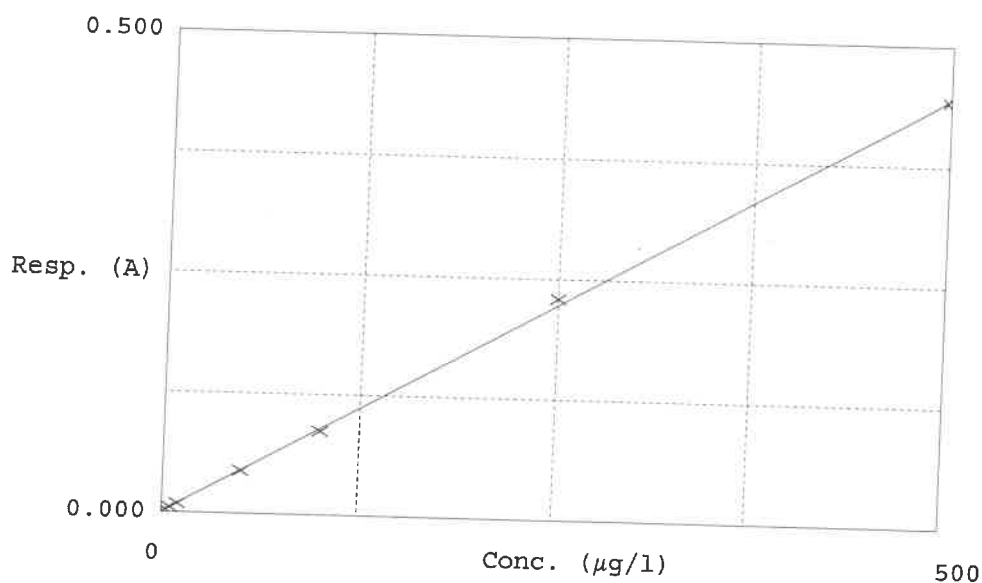
Test Total CN

Accepted 3/21/2025 10:13

Factor 1126
Bias 0.001

Coeff. of det. 0.999610

Errors



	Calibrator	Response	Calc. con.	Conc.	Re Errors
1	0.0PPBCN	0.001	-0.2319	0.0000	
2	5.0PPBCN	0.005	5.1211	5.0000	
3	10PPBCN	0.009	9.5015	10.0000	2.4
4	50PPBCN	0.044	48.9961	50.0000	-5.0
5	100PPBCN	0.087	97.0379	100.0000	-2.0
6	250PPBCN	0.230	257.7473	250.0000	-3.0
7	500PPBCN	0.442	496.8279	500.0000	3.1
					-0.6

NF

03. 21. 2025

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

SDG No : N/A

Start Digest Date: 03/14/2025 **Time :** 10:45 **Temp :** 124 °C

Matrix : SOIL

End Digest Date: 03/14/2025 **Time :** 12:15 **Temp :** 126 °C

Pipette ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#1

Digestion tube ID : M5595

Block Thermometer ID : WC CYANIDE

Block ID : MC-1, MC-2

Filter paper ID : N/A

Prep Technician Signature: *JP*
Weigh By : JP

pH Meter ID : N/A

Supervisor Signature: *12*

Standard Name	MLS USED	STD REF. # FROM LOG
LCSS	1ML	WP111296
MS/MSD SPIKE SOL.	0.40ML	WP111295
PBS003	50ML	W3112
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
0.25N NaOH	50ML	WP111294
50% v/v H2SO4	5ML	WP110391
51% w/v MgCL2	2ML	WP110390
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	Wt(g)/Vol(ml)	Comment
S0	S0	N/A	N/A
S5.0	S5.0	N/A	N/A
S10.0	S10.0	N/A	N/A
S100.0	S100.0	N/A	N/A
S250.0	S250.0	N/A	N/A
S500.0	S500.0	N/A	N/A
ICV	ICV	0.5ML	W3012
ICB	ICB	N/A	N/A
CCV	CCV	N/A	N/A
CCB	CCB	N/A	N/A
Midrange	Midrange	N/A	N/A
HIGHSTD	HIGHSTD	5.0ML	WP111295
LOWSTD	LOWSTD	0.1ML	WP111295

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
03/14/2025, 12:30	<i>JP / WC</i>	<i>NP / WC</i>
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/Nitrite	Comment	Prep Pos
PB167142BL	PBS142	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A
PB167142BS	LCS142	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1547-01	OR-620-JB-COMP-01	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1547-06	OR-620-JB-COMP-02	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1549-01	72-11978	1.05	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1549-01DUP	72-11978DUP	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1549-01MS	72-11978MS	1.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1549-01MSD	72-11978MSD	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1552-01	NB-418-JB-COMP-01	1.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1569-01	TAP-IDW-SOIL-031325-01	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1569-04	TAP-IDW-SOIL-031325-02	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A

NF

03.20.2025

WORKLIST(Hardcopy Internal Chain)

WorkList Name : cn q1549

WorkList ID : 188226

Department : Distillation

Date : 03-12-2025 11:34:46

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1547-01	OR-620-JB-COMP-01	Solid	Cyanide	Cool 4 deg C	PSEG03	I41	03/11/2025	9012B
Q1547-06	OR-620-JB-COMP-02	Solid	Cyanide	Cool 4 deg C	PSEG03	I41	03/11/2025	9012B
Q1549-01	72-11978	Solid	Cyanide	Cool 4 deg C	PSEG03	I41	03/12/2025	9012B
Q1552-01	NB-418-JB-COMP-01	Solid	Cyanide	Cool 4 deg C	PSEG03	I31	03/12/2025	9012B

Date/Time 03/14/2025 , 10:30
Raw Sample Received by: off 600
Raw Sample Relinquished by: JDCSM

Date/Time 03/14/2025 , 12:00
Raw Sample Received by: JDCSM
Raw Sample Relinquished by: JDCSM

WORKLIST(Hardcopy Internal Chain)

WorkList Name : cn s q1569

WorkList ID : 188288

Department : Distillation

Date : 03-14-2025 09:59:11

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1569-01	TAP-IDW-SOIL-031325-01	Solid	Cyanide	Cool 4 deg C	WEST04	I33	03/13/2025	9012B
Q1569-04	TAP-IDW-SOIL-031325-02	Solid	Cyanide	Cool 4 deg C	WEST04		03/13/2025	9012B

NF

03.20.2025

Date/Time 03.14.2025 10:30
 Raw Sample Received by: JS
 Raw Sample Relinquished by: JS

Date/Time 03.14.2025 12:00
 Raw Sample Received by: JS
 Raw Sample Relinquished by: JS

SOP ID : M9034-SM4500 S F-Sulfide-15

SDG No : N/A

Start Digest Date: 03/19/2025 Time : 13:40 Temp : 70 °C

Matrix : SOIL

End Digest Date: 03/19/2025 Time : 15:10 Temp : 70 °C

Pipette ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#2

Digestion tube ID : M5595

Block Thermometer ID : WC CYANIDE

Block ID : WC-DIST-BLOCK-1

Filter paper ID : N/A

Prep Technician Signature: RM

Weigh By : RM

pH Meter ID : N/A

Supervisor Signature: 12

Standardized Name	MLS USED	STD REF. # FROM LOG
LCSS	1.25ML	WP112343
PBS003	50.0ML	W3112
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	WP111004
FORMALDEHYDE	2.0ML	W2725
CONC H2SO4	N/A	M6041
pH Paper 0-14	N/A	W3140
KI-starch paper	N/A	W3155
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:

03/19/2025 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
PB167200BL	PBS200	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A
PB167200BS	LCS200	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1569-01DUP	TAP-IDW-SOIL-031325-01DUP	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1569-01MS	TAP-IDW-SOIL-031325-01MS	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1569-01MSD	TAP-IDW-SOIL-031325-01MSD	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1569-01	TAP-IDW-SOIL-031325-01	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1569-04	TAP-IDW-SOIL-031325-02	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A

SOP ID : M9012B-Total, Amenable and Reactive Cyanide-20
SDG No : N/A
Matrix : SOIL
Pipette ID : N/A
Balance ID : N/A
Hood ID : HOOD#1
Block ID : N/A
Weigh By : JP

Start Digest Date: 03/20/2025 **Time :** 10:00 **Temp :** 123 °C
End Digest Date: 03/20/2025 **Time :** 11:30 **Temp :** 127 °C

Digestion tube ID : M5595
Filter paper ID : N/A
pH Meter ID : N/A

Block Thermometer ID : WC CYANIDE
Prep Technician Signature: JP
Supervisor Signature: 12

Standardized Name	MLS USED	STD REF. # FROM LOG
LCSS	1.00ML	WP111296
MS/MSD SPIKE SOL.	0.40ML	WP111295
PBS003	50ML	W3112
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
0.25N NaOH	50.0ML	WP111294
50% v/v H2SO4	5.0ML	WP110391
51% w/v MgCL2	2.0ML	WP110390
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	Wt(g)/Vol(ml)	Comment
S0	S0	N/A	N/A
S5.0	S5.0	N/A	N/A
S10.0	S10.0	N/A	N/A
S100.0	S100.0	N/A	N/A
S250.0	S250.0	N/A	N/A
S500.0	S500.0	N/A	N/A
ICV	ICV	0.5ML	W3012
ICB	ICB	N/A	N/A
CCV	CCV	N/A	N/A
CCB	CCB	N/A	N/A
Midrange	Midrange	N/A	N/A
HIGHSTD	HIGHSTD	5.0ML	WP111295
LOWSTD	LOWSTD	0.1ML	WP111295

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
03.20.2025, 11:40	JP LCG	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
PB167244BL	PBS244	1.00	50	NA	N/A	N/A	N/A	N/A	N/A
PB167244BS	LCS244	1.00	50	NA	N/A	N/A	N/A	N/A	N/A
Q1569-04	TAP-IDW-SOIL-031325-02	1.07	50	NA	N/A	N/A	N/A	N/A	N/A
Q1569-04DUP	TAP-IDW-SOIL-031325-02DUP	1.05	50	NA	N/A	N/A	N/A	N/A	N/A
Q1569-04MS	TAP-IDW-SOIL-031325-02MS	1.04	50	NA	N/A	N/A	N/A	N/A	N/A
Q1569-04MSD	TAP-IDW-SOIL-031325-02MSD	1.05	50	NA	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : CN Q1569

WorkList ID : 188446

Department : Distillation

Date : 03-20-2025 09:27:50

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1569-04	TAP-IDW-SOIL-031325-02	Solid	Cyanide	Cool 4 deg C	WEST04		03/13/2025	9012B

Date/Time 03.20.2025, 09:30

Raw Sample Received by: afg

Raw Sample Relinquished by: afg

Date/Time 03.20.2025, 11:00

Raw Sample Received by: afg

Raw Sample Relinquished by: afg

Instrument ID: FLAME

Daily Analysis Runlog For Sequence/QC Batch ID # LB135032

Review By	rubina	Review On	3/14/2025 2:42:23 PM
Supervise By	Iwona	Supervise On	3/14/2025 2:44:17 PM
SubDirectory	LB135032	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	Q1568-01	JC-03-03132025	SAM	03/14/25 12:00		rubina	OK
2	Q1568-01DUP	JC-03-03132025DUP	DUP	03/14/25 12:08		rubina	OK
3	Q1568-04	JC-03-03132025	SAM	03/14/25 12:16		rubina	OK
4	Q1569-01	TAP-IDW-SOIL-03132	SAM	03/14/25 12:24		rubina	OK
5	Q1569-04	TAP-IDW-SOIL-03132	SAM	03/14/25 12:31		rubina	OK
6	Q1574-02	WC1	SAM	03/14/25 12:38		rubina	OK

Instrument ID: WC PH METER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB135039

Review By	jignesh	Review On	3/14/2025 3:25:50 PM
Supervise By	Iwona	Supervise On	3/14/2025 4:17:01 PM
SubDirectory	LB135039	Test	pH
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,W3161,W3072		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	03/14/25 14:40		Jignesh	OK
2	CAL2	CAL2	CAL	03/14/25 14:41		Jignesh	OK
3	CAL3	CAL3	CAL	03/14/25 14:45		Jignesh	OK
4	ICV	ICV	ICV	03/14/25 14:50		Jignesh	OK
5	CCV1	CCV1	CCV	03/14/25 15:00		Jignesh	OK
6	Q1569-01	TAP-IDW-SOIL-03132	SAM	03/14/25 15:10		Jignesh	OK
7	Q1569-04	TAP-IDW-SOIL-03132	SAM	03/14/25 15:20		Jignesh	OK
8	Q1574-01	WC1	SAM	03/14/25 15:35		Jignesh	OK
9	Q1574-01DUP	WC1DUP	DUP	03/14/25 15:36		Jignesh	OK
10	CCV2	CCV2	CCV	03/14/25 15:40		Jignesh	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB135044

Review By	Niha	Review On	3/17/2025 10:58:34 AM
Supervise By	Iwona	Supervise On	3/17/2025 1:34:07 PM
SubDirectory	LB135044	Test	Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP112310,WP112311,WP112312,WP112313,WP112314,WP112315,WP112316		
ICV Standard	W3012		
CCV Standard	WP112311		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111296		
Chk Standard	WP111035,WP110103,WP112317		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	03/14/25 15:15		Iwona	OK
2	5.0PPBCN	5.0PPBCN	CAL2	03/14/25 15:15		Iwona	OK
3	10PPBCN	10PPBCN	CAL3	03/14/25 15:15		Iwona	OK
4	50PPBCN	50PPBCN	CAL4	03/14/25 15:15		Iwona	OK
5	100PPBCN	100PPBCN	CAL5	03/14/25 15:15		Iwona	OK
6	250PPBCN	250PPBCN	CAL6	03/14/25 15:15		Iwona	OK
7	500PPBCN	500PPBCN	CAL7	03/14/25 15:15		Iwona	OK
8	ICV1	ICV1	ICV	03/14/25 16:27		Iwona	OK
9	ICB1	ICB1	ICB	03/14/25 16:27		Iwona	OK
10	CCV1	CCV1	CCV	03/14/25 16:27		Iwona	OK
11	CCB1	CCB1	CCB	03/14/25 16:27		Iwona	OK
12	PB167142BL	PB167142BL	MB	03/14/25 16:27		Iwona	OK
13	PB167142BS	PB167142BS	LCS	03/14/25 16:34		Iwona	OK
14	LOWPB167141	LOWPB167141	SAM	03/14/25 16:34		Iwona	OK
15	HIGHPB167142	HIGHPB167142	SAM	03/14/25 16:34		Iwona	OK
16	Q1547-01	OR-620-JB-COMP-01	SAM	03/14/25 16:34		Iwona	OK
17	Q1547-06	OR-620-JB-COMP-02	SAM	03/14/25 16:34		Iwona	OK
18	Q1549-01	72-11978	SAM	03/14/25 16:34		Iwona	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB135044

Review By	Niha	Review On	3/17/2025 10:58:34 AM
Supervise By	Iwona	Supervise On	3/17/2025 1:34:07 PM
SubDirectory	LB135044	Test	Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP112310,WP112311,WP112312,WP112313,WP112314,WP112315,WP112316		
ICV Standard	W3012		
CCV Standard	WP112311		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111296		
Chk Standard	WP111035,WP110103,WP112317		

19	Q1549-01DUP	72-11978DUP	DUP	03/14/25 16:42		Iwona	OK
20	Q1549-01MS	72-11978MS	MS	03/14/25 16:42		Iwona	OK
21	Q1549-01MSD	72-11978MSD	MSD	03/14/25 16:42		Iwona	OK
22	CCV2	CCV2	CCV	03/14/25 16:42		Iwona	OK
23	CCB2	CCB2	CCB	03/14/25 16:42		Iwona	OK
24	Q1552-01	NB-418-JB-COMP-01	SAM	03/14/25 16:42		Iwona	OK
25	Q1569-01	TAP-IDW-SOIL-03132	SAM	03/14/25 16:42		Iwona	OK
26	CCV3	CCV3	CCV	03/14/25 16:46		Iwona	OK
27	CCB3	CCB3	CCB	03/14/25 16:46		Iwona	OK

Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QC Batch ID # LB135093

Review By	rubina	Review On	3/19/2025 4:25:17 PM
Supervise By	Iwona	Supervise On	3/21/2025 4:54:04 PM
SubDirectory	LB135093	Test	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	PB167200BL	PB167200BL	MB	03/19/25 15:45		rubina	OK
2	PB167200BS	PB167200BS	LCS	03/19/25 15:48		rubina	OK
3	Q1569-01	TAP-IDW-SOIL-03132	SAM	03/19/25 15:51		rubina	OK
4	Q1569-01DUP	TAP-IDW-SOIL-03132	DUP	03/19/25 15:54		rubina	OK
5	Q1569-01MS	TAP-IDW-SOIL-03132	MS	03/19/25 15:57		rubina	OK
6	Q1569-01MSD	TAP-IDW-SOIL-03132	MSD	03/19/25 16:00		rubina	OK
7	Q1569-04	TAP-IDW-SOIL-03132	SAM	03/19/25 16:03		rubina	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB135124

Review By	rubina	Review On	3/21/2025 3:04:56 PM
Supervise By	Iwona	Supervise On	3/21/2025 3:05:28 PM
SubDirectory	LB135124	Test	Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP112414,WP112421,WP112416,WP112417,WP112418,WP112419,WP112420		
ICV Standard	W3012		
CCV Standard	WP112421		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111296		
Chk Standard	WP111035,WP110103,WP112422		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	03/21/25 10:11		Niha	OK
2	5.0PPBCN	5.0PPBCN	CAL2	03/21/25 10:11		Niha	OK
3	10PPBCN	10PPBCN	CAL3	03/21/25 10:11		Niha	OK
4	50PPBCN	50PPBCN	CAL4	03/21/25 10:11		Niha	OK
5	100PPBCN	100PPBCN	CAL5	03/21/25 10:11		Niha	OK
6	250PPBCN	250PPBCN	CAL6	03/21/25 10:11		Niha	OK
7	500PPBCN	500PPBCN	CAL7	03/21/25 10:11		Niha	OK
8	ICV1	ICV1	ICV	03/21/25 10:41		Niha	OK
9	ICB1	ICB1	ICB	03/21/25 10:41		Niha	OK
10	CCV1	CCV1	CCV	03/21/25 10:41		Niha	OK
11	CCB1	CCB1	CCB	03/21/25 10:41		Niha	OK
12	PB167244BL	PB167244BL	MB	03/21/25 10:41		Niha	OK
13	PB167244BS	PB167244BS	LCS	03/21/25 10:48		Niha	OK
14	LOWPB167244	LOWPB167244	SAM	03/21/25 10:48		Niha	OK
15	HIGHPB167244	HIGHPB167244	SAM	03/21/25 10:48		Niha	OK
16	Q1569-04	TAP-IDW-SOIL-03132	SAM	03/21/25 10:48		Niha	OK
17	Q1569-04DUP	TAP-IDW-SOIL-03132	DUP	03/21/25 10:48		Niha	OK
18	Q1569-04MS	TAP-IDW-SOIL-03132	MS	03/21/25 10:48		Niha	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB135124

Review By	rubina	Review On	3/21/2025 3:04:56 PM
Supervise By	Iwona	Supervise On	3/21/2025 3:05:28 PM
SubDirectory	LB135124	Test	Cyanide

STD. NAME	STD REF.#
ICAL Standard	WP112414,WP112421,WP112416,WP112417,WP112418,WP112419,WP112420
ICV Standard	W3012
CCV Standard	WP112421
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP111296
Chk Standard	WP111035,WP110103,WP112422

19	Q1569-04MSD	TAP-IDW-SOIL-03132	MSD	03/21/25 10:53		Niha	OK
20	CCV2	CCV2	CCV	03/21/25 10:53		Niha	OK
21	CCB2	CCB2	CCB	03/21/25 10:53		Niha	OK

Prep Standard - Chemical Standard Summary

Order ID : Q1569

Test : Cyanide,Ignitability,Percent Solids,pH,Sulfide

Prepbatch ID : PB167142,PB167200,PB167244,

Sequence ID/Qc Batch ID: LB135032,LB135039,LB135044,LB135093,LB135124,

Standard ID :

WP110103,WP110390,WP110391,WP111004,WP111035,WP111294,WP111295,WP111296,WP112309,WP112310,WP112311,WP112312,WP112313,WP112314,WP112315,WP112316,WP112317,WP112342,WP112343,WP112413,WP112414,WP112416,WP112417,WP112418,WP112419,WP112420,WP112421,WP112422,

Chemical ID :

M5673,M6041,M6121,W2668,W2725,W2882,W2926,W3001,W3012,W3019,W3071,W3072,W3093,W3094,W3105,W3107,W3112,W3113,W3114,W3138,W3139,W3140,W3149,W3154,W3155,W3156,W3161,

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>
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								

<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>
3214	Magnesium Chloride For Cyanide 2.5M(51%W/V)	WP110390	10/24/2024	04/24/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 10/24/2024
FROM 500.00000ml of W3112 + 510.00000gram of W3001 = 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>
1714	Sulfuric Acid, 50% (v/v)	WP110391	10/24/2024	04/24/2025	Niha Farheen Shaik	None	None	Iwona Zarych 10/24/2024

FROM 1000.00000ml of M5673 + 1000.00000ml of W3112 = Final Quantity: 2000.000 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	WP111004	12/09/2024	05/13/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 12/09/2024

FROM 0.88900L of W3112 + 1.00000ml of M6121 + 110.00000gram of W2926 = 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>
607	PYRIDINE-BARBITURIC ACID	WP111035	12/09/2024	04/30/2025	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	Glass Pipette-A	Iwona Zarych 12/10/2024
FROM 145.00000ml of W3112 + 15.00000gram of W2882 + 15.00000ml of M6121 + 75.00000ml of W3019 = Final Quantity: 250.000 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>
11	Sodium hydroxide absorbing solution 0.25 N	WP111294	01/07/2025	07/07/2025	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 01/07/2025
FROM 21.00000L of W3112 + 210.00000gram of W3113 = Final Quantity: 21.000 L								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3850	Cyanide MS-MSD spiking solution, 5PPM	WP111295	01/07/2025	07/07/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/07/2025
FROM 1.00000ml of W3154 + 199.00000ml of WP111294 = 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>
3371	Cyanide LCS Spike Solution, 5PPM	WP111296	01/07/2025	07/07/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/07/2025
FROM 1.00000ml of W3138 + 199.00000ml of WP111294 = Final Quantity: 200.000 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	WP112309	03/14/2025	03/15/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/18/2025
FROM 0.25000ml of W3154 + 49.75000ml of WP111294 = 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	WP112310	03/14/2025	03/15/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/18/2025
FROM 45.00000ml of WP111294 + 5.00000ml of WP112309 = 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	WP112311	03/14/2025	03/15/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/18/2025
FROM 2.50000ml of WP112309 + 47.50000ml of WP111294 = 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	WP112312	03/14/2025	03/15/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/18/2025
FROM 1.00000ml of WP112309 + 49.00000ml of WP111294 = 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>
7	Calibration Standard 50 ppb	WP112313	03/14/2025	03/15/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/18/2025
FROM 0.50000ml of WP112309 + 49.50000ml of WP111294 = 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	WP112314	03/14/2025	03/15/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/18/2025
FROM 1.00000ml of WP112310 + 49.00000ml of WP111294 = 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	WP112315	03/14/2025	03/15/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/18/2025
FROM 0.50000ml of WP112310 + 49.50000ml of WP111294 = 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	WP112316	03/14/2025	03/15/2025	Niha Farheen Shaik	None	None	Iwona Zarych 03/18/2025
FROM 50.00000ml of WP111294 = 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	WP112317	03/14/2025	03/15/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 03/18/2025
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>
3311	Sulfide Int std, 1000PPM	WP112342	03/19/2025	03/20/2025	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 03/20/2025
FROM 0.75000gram of W3156 + 99.00000ml of W3112 = 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>
3312	Sulfide std, 25PPM	WP112343	03/19/2025	03/20/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/20/2025
FROM 48.75000ml of W3112 + 1.25000ml of WP112342 = 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>
3456	Cyanide Intermediate Working Std, 5PPM	WP112413	03/21/2025	03/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/21/2025
FROM 0.25000ml of W3154 + 49.75000ml of WP111294 = 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>
4	Calibration standard 500 ppb	WP112414	03/21/2025	03/22/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/21/2025

FROM 45.00000ml of WP111294 + 5.00000ml of WP112413 = 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	WP112416	03/21/2025	03/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/21/2025

FROM 1.00000ml of WP112413 + 49.00000ml of WP111294 = 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>
7	Calibration Standard 50 ppb	WP112417	03/21/2025	03/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/21/2025
FROM 0.50000ml of WP112413 + 49.50000ml of WP111294 = 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	WP112418	03/21/2025	03/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/21/2025
FROM 1.00000ml of WP112414 + 49.00000ml of WP111294 = 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	WP112419	03/21/2025	03/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/21/2025
FROM 0.50000ml of WP112414 + 49.50000ml of WP111294 = 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	WP112420	03/21/2025	03/22/2025	Niha Farheen Shaik	None	None	Iwona Zarych 03/21/2025
FROM 50.00000ml of WP111294 = 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	WP112421	03/21/2025	03/22/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/21/2025

FROM 2.50000ml of WP112413 + 47.50000ml of WP111294 = 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>
1582	Chloramine T solution, 0.014M	WP112422	03/21/2025	03/22/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 03/21/2025

FROM 0.08000gram of W3139 + 20.00000ml of W3112 = Final Quantity: 20.000 ml

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-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-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	08/16/2024 / mohan	08/16/2024 / mohan	M6041

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	0000275677	05/13/2025	11/13/2024 / Eman	10/13/2024 / Eman	M6121

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

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

CHEMICAL RECEIPT LOG BOOK

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,CRYS,ACS S,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.	01237-10KG / Megnasium Chloride Hexahydrate ACS 10KG	002251-03319	06/06/2027	01/23/2023 / lwona	06/06/2022 / lwona	W3001

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	/ ICV-CN	ICV6-400	12/31/2025	01/08/2025 / lwona	02/20/2020 / lwona	W3012

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 / lwona	04/03/2023 / lwona	W3019

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 / lwona	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 / lwona	W3072

CHEMICAL RECEIPT LOG BOOK

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

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,4LIT RE	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

CHEMICAL RECEIPT LOG BOOK

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

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.	140444 / TEST PAPERS,PH 0-14,.5 SENSI,100PK	10D0142	09/17/2029	09/17/2024 / lwona	09/17/2024 / lwona	W3140

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

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	1411J58	05/31/2025	12/02/2024 / lwona	12/02/2024 / lwona	W3154

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140730 / TEST PAPER,POT.IOD-STRCH,P K100,CS12	14-860	12/02/2029	12/02/2024 / lwona	12/02/2024 / lwona	W3155

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3910-1 / Sodium Sulfide, 500 g	241836	11/30/2025	12/03/2024 / lwona	12/03/2024 / lwona	W3156

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)	2411E26	10/31/2026	12/09/2024 / lwona	12/09/2024 / lwona	W3161


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:

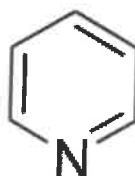
C₅H₅N

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.



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

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

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

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.

1
2
3
4
5
6
7
8
9
10
11
12
13
14



R: 02/20/20
53

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

For ICP-MS use: dilute the ICV1 concentrate 50-fold with 1% (v/v) nitric acid; pipet 2 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415

For the cold vapor analysis of mercury by AA: dilute the ICV5 concentrate 100-fold with 2% (v/v) nitric acid; pipet 1 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400

For the analysis of cyanide: dilute the ICV6 concentrate 100-fold with Type II water; pipet 1 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS

ICV1-1014		
Element	Concentration (µg/L) (after 10-fold dilution)	Concentration (µg/L) (after 50-fold dilution)
Al	2520	504
Sb	1010	202
As	997	199
Ba	518	104
Be	514	103
Cd	514	103
Ca	10000	2000
Cr	517	103
Co	521	104
Cu	505	101
Fe	10100	2020
Pb	1030	206
Mg	5990	1198
Mn	524	105
Ni	525	105
K	9940	1988
Se	1030	206
Ag	252	50
Na	10100	2020
Tl	1040	208
V	504	101
Zn	1010	202

ICV5-0415		ICV6-0400	
Element	Concentration (µg/L) (after 100-fold dilution)	Analyte	Concentration (µg/L) (after 100-fold dilution)
Hg	4.0	CN ⁻	99

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

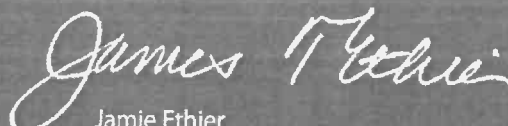


Material No.: 9673-33
Batch No.: 23D2462010

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

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

avantor™



M 6041-4b
MS

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

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H ₂ SO ₄)	95.0 – 98.0 %	96.1 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Substances Reducing Permanganate (as SO ₂)	≤ 2 ppm	< 2 ppm
Ammonium (NH ₄)	≤ 1 ppm	1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO ₃)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO ₄)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities – Aluminum (Al)	≤ 30.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	8.5 ppb
Trace Impurities – Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	0.5 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	1.3 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 ppb	0.8 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Nickel (Ni)	≤ 2.0 ppb	0.3 ppb
Trace Impurities – Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se)	≤ 50.0 ppb	< 0.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	31.5 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

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

 **avantorsm**

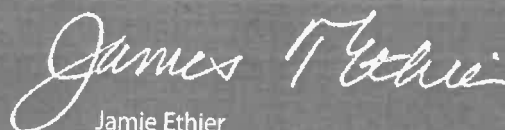


Material No.: 9673-33
Batch No.: 23D2462010

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

For Laboratory, Research, or Manufacturing Use

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



Jamie Ethier
Vice President Global Quality

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



R → 16/13/24
Met dig

M 6121

Material No.: 9530-33
Batch No.: 0000275677
Manufactured Date: 2020/12/16
Retest Date: 2025/12/15
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS - Assay (as HCl) (by acid-base titrn)	36.5 - 38.0 %	37.6
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 3 ppm	1
ACS - Specific Gravity at 60°/60°F	1.185 - 1.192	1.190
ACS - Bromide (Br)	<= 0.005 %	< 0.005
ACS - Extractable Organic Substances	<= 5 ppm	1
ACS - Free Chlorine (as Cl ₂)	<= 0.5 ppm	< 0.5
Phosphate (PO ₄)	<= 0.05 ppm	< 0.03
Sulfate (SO ₄)	<= 0.5 ppm	< 0.3
Sulfite (SO ₃)	<= 0.8 ppm	0.3
Ammonium (NH ₄)	<= 3 ppm	< 1
Trace Impurities - Arsenic (As)	<= 0.010 ppm	< 0.003
Trace Impurities - Aluminum (Al)	<= 10.0 ppb	< 0.2
Arsenic and Antimony (as As)	<= 5 ppb	< 3
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	29.7
Trace Impurities - Chromium (Cr)	<= 1.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 1.0 ppb	< 0.2

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

Test	Specification	Result
Trace Impurities – Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities – Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities – Iron (Fe)	<= 15.0 ppb	< 1
Trace Impurities – Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities – Lithium (Li)	<= 1.0 ppb	0.2
Trace Impurities – Magnesium (Mg)	<= 10.0 ppb	0.4
Trace Impurities – Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities – Mercury (Hg)	<= 0.5 ppb	0.1
Trace Impurities – Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities – Nickel (Ni)	<= 4.0 ppb	< 0.3
Trace Impurities – Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities – Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities – Selenium (Se), For Information Only	ppb	1.0
Trace Impurities – Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities – Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities – Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities – Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities – Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities – Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities – Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities – Titanium (Ti)	<= 1.0 ppb	0.2
Trace Impurities – Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities – Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities – Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

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

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



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.

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

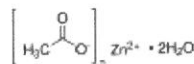
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

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.





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

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

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

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

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

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

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

W3107
JF

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

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.

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	Manufacture Date:	12/14/2022
Molecular Weight:	40	Expiration Date:	12/31/2025
CAS #:	1310-73-2		
Appearance:		Storage:	Room Temperature

Pellets

Spec Set: 0583ACS

Internal ID #: 710

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

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

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

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
Chemistry Supervisor - Quality Control

ISO9001:2015 Registration #0306-01

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

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)



Certificate of Analysis

Cyanide Standard, 1000 ppm CN⁻

Lot Number: 1411J58**Product Number:** 2543**Manufacture Date:** NOV 22, 2024**Expiration Date:** MAY 2025

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
2543-32	1 L amber poly	6 months
2543-4	120 mL amber poly	6 months

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



Certificate of Analysis

Item Number	Product Description	Lot Number
SX0770-1	Sodium Sulfide Nonahydrate, ACS Grade, 500GM	241836
Formula	Molecular Weight	CAS Number
Na ₂ S • 9H ₂ O	240.18 g/mol	1313-84-4

QC TEST/RELEASE DATE: 10/09/2024

SUGGESTED RETEST DATE: 11/30/2025

S.No	Test	Unit	Specifications	Test Value
1	Appearance (Color)		Colorless to Very Faint Yellow and White to Faint Yellow	White
2	Appearance (Form)		Crystals or Chunks	Crystals
3	Titration by Na ₂ S ₂ O ₃	%	≥ 98.0	98.1
4	Ammonium (NH ₄)	%	≤ 0.005	< 0.005
5	Assay (Sulfite and Thiosulfate)	%	≤ 0.1	0.08
6	Iron (Fe)		Pass	passed
7	BSE/TSE Free		BSE/TSE Free	passed
8	Grade		Meets ACS Specifications	passed
9	Country of Origin		Ukraine	Ukraine

Intended for laboratory and manufacturing use only. Not for drug, food, or household use.
This is an electronically generated document and does not require signatures.

Certified By : Joe Schoellkopf,
Quality Control Manager

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

EMD Millipore Corporation
400 Summit Drive
Burlington, MA 01803
U.S.A

Certificate of Analysis

Buffer, Reference Standard, pH 2.00 ± 0.01 at 25°C

Lot Number: 2411E26

Product Number: 1493

Manufacture Date: NOV 11, 2024

Expiration Date: OCT 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	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)	1.994	0.02	185i, 186-I-g, 186-II-g

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)
1493-1	4 L natural poly	24 months
1493-16	500 mL natural poly	24 months
1493-1CT	4 L Cubitainer®	24 months
1493-2.5	10 L Cubitainer®	24 months
1493-32	1 L natural poly	24 months

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



Jose Pena (11/11/2024)
Operations Manager

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.

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 3/17/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:20
In Date: 03/14/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN-1

OVENTEMP OUT Celsius(°C): 105
Time OUT: 08:35
Out Date: 03/15/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLIDS-OVEN

QC:LB135036

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
Q1569-01	TAP-IDW-SOIL-031325-01	1	1.14	11.74	12.88	10.13	76.6	
Q1569-04	TAP-IDW-SOIL-031325-02	2	1.16	10.92	12.08	9.16	73.3	
Q1572-01	C0AC9	3	1.12	10.23	11.35	8.25	69.7	
Q1572-02	C0014	4	1.15	10.41	11.56	9.32	78.5	
Q1572-03	C0015	5	1.18	10.05	11.23	9.22	80.0	
Q1572-04	C0016	6	1.15	9.00	10.15	7.3	68.3	
Q1572-05	C0017	7	1.14	10.49	11.63	8.97	74.6	
Q1572-06	C0018	8	1.15	9.91	11.06	8.68	76.0	
Q1572-07	C0019	9	1.16	10.15	11.31	8.17	69.1	
Q1572-08	C0020	10	1.13	10.26	11.39	8.8	74.8	
Q1572-09	C0021	11	1.15	10.40	11.55	8.11	66.9	
Q1572-10	C0022	12	1.15	10.39	11.54	8.00	65.9	
Q1572-11	C0023	13	1.14	10.46	11.6	9.91	83.8	
Q1572-12	C0024	14	1.13	10.28	11.41	8.82	74.8	
Q1572-13	C0025	15	1.12	10.22	11.34	8.92	76.3	
Q1572-14	C0026	16	1.19	10.23	11.42	8.82	74.6	
Q1572-15	C0027	17	1.12	10.48	11.6	8.85	73.8	
Q1572-16	C0028	18	1.15	10.11	11.26	9.52	82.8	
Q1573-01	C0AC4	19	1.19	10.51	11.7	8.81	72.5	
Q1573-02	C0AC5	20	1.16	11.03	12.19	8.16	63.5	
Q1573-03	C0AC6	21	1.14	10.38	11.52	7.66	62.8	
Q1573-04	C0AC8	22	1.16	10.28	11.44	7.25	59.2	
Q1573-05	C0029	23	1.18	10.60	11.78	7.09	55.8	
Q1573-06	C0030	24	1.13	10.13	11.26	8.17	69.5	
Q1573-07	C0031	25	1.19	10.24	11.43	8.1	67.5	
Q1573-08	C0032	26	1.15	10.08	11.23	6.7	55.1	
Q1573-09	C0033	27	1.13	10.27	11.4	7.76	64.6	
Q1573-10	C0034	28	1.14	10.42	11.56	9.7	82.1	

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 3/17/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:20
In Date: 03/14/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN-1

OVENTEMP OUT Celsius(°C): 105
Time OUT: 08:35
Out Date: 03/15/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLIDS-OVEN

QC:LB135036

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
Q1573-11	C0035	29	1.19	11.25	12.44	9.97	78.0	
Q1574-01	WC1	30	1.11	10.31	11.42	11.21	98.0	
Q1578-01	JEC817T-1-1	31	1.00	1.00	2.00	2.00	100.0	pile
Q1578-02	JEC817T-1-2	32	1.00	1.00	2.00	2.00	100.0	pile
Q1579-01	BC271189-1-1	33	1.00	1.00	2.00	2.00	100.0	pile
Q1579-02	BC271189-1-2	34	1.00	1.00	2.00	2.00	100.0	pile
Q1579-03	BC271038-1-1	35	1.00	1.00	2.00	2.00	100.0	pile
Q1579-04	BC271038-1-2	36	1.00	1.00	2.00	2.00	100.0	pile
Q1581-01	TR-06-031425	37	1.14	10.08	11.22	10.54	93.3	
Q1581-02	TR-06-031425-E2	38	1.18	10.18	11.36	10.64	92.9	
Q1584-05	SVOC-GPC-BLANK	39	1.00	1.00	2.00	2.00	100.0	
Q1584-06	PEST-GPC-BLANK	40	1.00	1.00	2.00	2.00	100.0	
Q1584-07	PEST-GPC-BLANK-SPIKE	41	1.00	1.00	2.00	2.00	100.0	
Q1584-08	PCB-GPC-BLANK	42	1.00	1.00	2.00	2.00	100.0	
Q1584-09	PCB-GPC-BLANK-SPIKE	43	1.00	1.00	2.00	2.00	100.0	
Q1584-10	SVOC-GPC2-BLANK	44	1.00	1.00	2.00	2.00	100.0	
Q1584-11	PEST-GPC2-BLANK	45	1.00	1.00	2.00	2.00	100.0	
Q1584-12	PEST-GPC2-BLANK-SPIKE	46	1.00	1.00	2.00	2.00	100.0	
Q1584-13	PCB-GPC2-BLANK	47	1.00	1.00	2.00	2.00	100.0	
Q1584-14	PCB-GPC2-BLANK-SPIKE	48	1.00	1.00	2.00	2.00	100.0	
Q1585-01	OK-02-03142025	49	1.14	10.43	11.57	11.27	97.1	
Q1585-02	OK-02-03142025-E2	50	1.13	10.27	11.4	10.89	95.0	

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

WORKLIST(Hardcopy Internal Chain)

135036

WorkList Name : %1-031425

WorkList ID : 188269

Department : Wet-Chemistry

Date : 03-14-2025 08:28:30

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1569-01	TAP-IDW-SOIL-031325-01	Solid	Percent Solids	Cool 4 deg C	WEST04	I33	03/13/2025	Chemtech -SO
Q1569-04	TAP-IDW-SOIL-031325-02	Solid	Percent Solids	Cool 4 deg C	WEST04	I33	03/13/2025	Chemtech -SO
Q1572-01	C0AC9	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-02	C0O14	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-03	C0O15	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-04	C0O16	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-05	C0O17	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-06	C0O18	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-07	C0O19	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-08	C0O20	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-09	C0O21	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-10	C0O22	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-11	C0O23	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-12	C0O24	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-13	C0O25	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-14	C0O26	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-15	C0O27	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1572-16	C0O28	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1573-01	C0AC4	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/12/2025	Chemtech -SO
Q1573-02	C0AC5	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/11/2025	Chemtech -SO
Q1573-03	C0AC6	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/11/2025	Chemtech -SO

Date/Time 03/14/25 16:10

Raw Sample Received by: SP WPC

Raw Sample Relinquished by: JTCsm

Date/Time

Raw Sample Received by:

Raw Sample Relinquished by:

WORKLIST(Hardcopy Internal Chain)

135036

WorkList Name : %1-031425 WorkList ID : 188269 Department : Wet-Chemistry Date : 03-14-2025 08:28:30

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1573-04	C0AC8	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/11/2025	Chemtech -SO
Q1573-05	C0O29	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/11/2025	Chemtech -SO
Q1573-06	C0O30	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/11/2025	Chemtech -SO
Q1573-07	C0O31	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/11/2025	Chemtech -SO
Q1573-08	C0O32	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/11/2025	Chemtech -SO
Q1573-09	C0O33	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/11/2025	Chemtech -SO
Q1573-10	C0O34	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/11/2025	Chemtech -SO
Q1573-11	C0O35	Solid	Percent Solids	Cool 4 deg C	TETR16	I31	03/11/2025	Chemtech -SO
Q1574-01	WC1	Solid	Percent Solids	Cool 4 deg C	GENV01	I41	03/11/2025	Chemtech -SO
Q1578-01	JEC817T-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	03/12/2025	Chemtech -SO
Q1578-02	JEC817T-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	03/14/2025	Chemtech -SO
Q1579-01	BC271189-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	03/14/2025	Chemtech -SO
Q1579-02	BC271189-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	03/14/2025	Chemtech -SO
Q1579-03	BC271038-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	03/14/2025	Chemtech -SO
Q1579-04	BC271038-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	03/14/2025	Chemtech -SO
Q1581-01	TR-06-031425	Solid	Percent Solids	Cool 4 deg C	PSEG05	I41	03/14/2025	Chemtech -SO
Q1581-02	TR-06-031425-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	I41	03/14/2025	Chemtech -SO
Q1584-05	SVOC-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	F11	03/14/2025	Chemtech -SO
Q1584-06	PEST-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	F11	03/14/2025	Chemtech -SO
Q1584-07	PEST-GPC-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	F11	03/14/2025	Chemtech -SO
Q1584-08	PCB-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	F11	03/14/2025	Chemtech -SO

Date/Time 03/14/25 16:10 Date/Time 03/14/25 17:30

Raw Sample Received by: 88 WCC Raw Sample Received by: JTCM

Raw Sample Relinquished by: JTCM Raw Sample Relinquished by: 88 WCC

WORKLIST(Hardcopy Internal Chain)

WB 135036

WorkList Name : %1-031425

WorkList ID : 188269

Department : Wet-Chemistry

Date : 03-14-2025 08:28:30

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1584-09	PCB-GPC-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	F11	03/14/2025	Chemtech -SO
Q1584-10	SVOC-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	F11	03/14/2025	Chemtech -SO
Q1584-11	PEST-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	F11	03/14/2025	Chemtech -SO
Q1584-12	PEST-GPC2-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	F11	03/14/2025	Chemtech -SO
Q1584-13	PCB-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	F11	03/14/2025	Chemtech -SO
Q1584-14	PCB-GPC2-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	F11	03/14/2025	Chemtech -SO
Q1585-01	OK-02-03142025	Solid	Percent Solids	Cool 4 deg C	PSEG05	I41	03/14/2025	Chemtech -SO
Q1585-02	OK-02-03142025-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	I41	03/14/2025	Chemtech -SO

Date/Time 03/14/25 16:10
Raw Sample Received by: JB muel
Raw Sample Relinquished by: IT (SM)

Date/Time 03/14/25 17:30
Raw Sample Received by: IT (SM)
Raw Sample Relinquished by: JB muel



SHIPPING DOCUMENTS

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Q1569
WESTON SOLUTIONS

Weston COC ID
Weston_20250313_1208

Chain of Custody Record/Lab Work Request

Page	1	of	1
------	---	----	---

Client:	Weston Solutions, Inc.		
Project Manager:	David Sembrot		
Street Address:	1400 Weston Way	City:	West Chester
Phone:	610-314-5456	ST, ZIP:	PA, 19038
e-mail:	david.sembrot@westonsolutions.com		
Sampled By:	Cheyenne Harrington		

Project Name:	Fort Meade RI	Project POC:	Nathan Fretz
PO Number	0111189	Phone:	484-524-5665
W.O. #:		POC e-mail:	nathan.fretz@westonsolutions.com
Lab:	CHEMTECH	Lab POC:	Jordan Hedvat
TAT (days):	21	Lab Phone:	908-728-3144
Lab Address:	284 Sheffield Street Mountainside, NJ 07092		

Matrix Codes
SS - Soil
SE - Sediment
SO - Solid
SL - Sludge
GW - Groundwater
W - Water
SB - Soil Boring
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab Use Only		
Temperature of cooler when received (°C)		
COC Tape was present and unbroken on outer package?	Y	N
Samples received in good condition?	Y	N
Labels indicate properly preserved?	Y	N
Received within holding times?	Y	N
Discrepancies between sample labels and COC record?	Y	N

Analyses Requested:	TCLP VOCs by EPA 8260D (1311)	TCLP SVOCs by EPA 8270E (1311)	TCLP Metals by EPA 8010D/7470A	TCLP Pesticides by EPA 8081B	TCLP Herbicides by EPA 8151A	Total Cyanide by EPA 9012E	Total Sulfide by EPA 9034	PCBs by EPA 8082A	pH by EPA 9045D	Ignitability by EPA 1030		
	Container Type:	Glass	Glass	Glass	Glass	Glass	Glass	Glass	Glass	Glass		
	Container Size:	4 oz	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz		
	Preservative:	Ice to 0-6	Ice to 0-6 deg	Ice to 0-6 deg	Ice to 0-6 deg	Ice to 0-6 deg	Ice to 0-6 deg	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	

#	Sample ID	G/C	Matrix	# Cont	MS/MSD	Date Collected	Time Collected	C-3	C-4a	C-4b	C-5a	C-5b	C-6	C-7	C-8	C-9	C-10	C-11	C-12	Special Instructions/Comments
1	TAP-IDW-SOIL-031325-01	c	DS	7	no	3/13/2025	10:20	X ^a	X ^b	X ^c	X ^d	X ^e	X ^f	X ^g	X ^h	X ⁱ	X ^j			*VOCs no headspace, prep immediately
2	TAP-IDW-SOIL-031325-02	c	DS	7	no	3/13/2025	10:50	X ^a	X ^b	X ^c	X ^d	X ^e	X ^f	X ^g	X ^h	X ⁱ	X ^j			*VOCs no headspace, prep immediately
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

Shipping Airbill Number: 7726 9601 3376						Cooler Number: 1 of 1	
Relinquished By	Date	Time	Received By	Date	Time	Additional Comments	
1. <i>[Signature]</i>	3/13/25	1315	<i>[Signature]</i>	3/14/25	1000	QSM 6.0 Compliant	
2.)						Deliverable Requirements: DoD Level IV report, EnviroData EDD, and ERIS-compatible EDD	
3.)						2.9°C	

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