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

DATA PACKAGE

GENERAL CHEMISTRY

PROJECT NAME : FT MEADE TIPTON AIRFIELD PARCEL RI - PO 0111169

WESTON SOLUTIONS

1400 Weston Way

PO Box 2653

West Chester, PA - 19380

Phone No: 610-701-7400

ORDER ID : Q1352

ATTENTION : Nathan Fretz

Laboratory Certification ID # 20012

Table Of Contents for Q1352

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Cover Page

Order ID : Q1352

Project ID : Ft Meade Tipton Airfield Parcel RI - PO 0111169

Client : Weston Solutions

Lab Sample Number	Client Sample Number
Q1352-01	TAP-IDW-SOIL-021025
Q1352-02	TAP-IDW-SOIL-021025

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

Signature : _____

Date: 2/20/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

Weston Solutions
Project Name: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Project # N/A
Chemtech Project # Q1352
Test Name: pH,Cyanide,Sulfide,Ignitability

A. Number of Samples and Date of Receipt:
2 Solid samples were received on 02/11/2025.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Cyanide, Ignitability, 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-021025 of pH as this sample received out of hold.
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_____

284 Sheffield Street, Mountainside NJ 07092
Tel. 908-789-8900 Fax: 908-789-8922

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: Q1352 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-021025 of pH as this sample received out of hold.			

ADDITIONAL COMMENTS:

_____ _____

QA REVIEW Date

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1352

	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 Castody	✓
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:** 02/20/2025

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LAB CHRONICLE

OrderID:	Q1352	**OrderDate:**	2/11/2025 11:32:00 AM
Client:	Weston Solutions	**Project:**	Ft Meade Tipton Airfield Parcel RI - PO 0111169
Contact:	Nathan Fretz	**Location:**	N51

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1352-01	**TAP-IDW-SOIL-021025**	**SOIL**			**02/10/25 13:40**			**02/11/25**
			Cyanide	9012B		02/11/25	02/11/25 16:51	
			Ignitability	1030			02/12/25 10:15	
			pH	9045D			02/12/25 08:45	
			Sulfide	9034		02/12/25	02/12/25 12:36	

SAMPLE DATA

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Report of Analysis

Client:	Weston Solutions	Date Collected:	02/10/25 13:40
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Date Received:	02/11/25
Client Sample ID:	TAP-IDW-SOIL-021025	SDG No.:	Q1352
Lab Sample ID:	Q1352-01	Matrix:	SOIL
		% Solid:	74.7

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.25	U	1	0.056	0.25	0.32	mg/Kg	02/11/25 14:40	02/11/25 16:51	9012B
Ignitability	NO		1	0	0	0	oC		02/12/25 10:15	1030
pH	10.1	H	1	0	0	0	pH		02/12/25 08:45	9045D
Sulfide	4.27	J	1	2.48	6.67	13.3	mg/Kg	02/12/25 09:10	02/12/25 12:36	9034

Comments: pH result reported at temperature 20.4 °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

QC RESULT SUMMARY

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

Client:	Weston Solutions	**SDG No.:**	Q1352
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	**RunNo.:**	LB134675

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	**ICV**						
pH		pH	6.98	7	100	90-110	02/12/2025
Sample ID:	**CCV1**						
pH		pH	2.01	2.00	101	90-110	02/12/2025
Sample ID:	**CCV2**						
pH		pH	12.02	12.00	100	90-110	02/12/2025

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Initial and Continuing Calibration Verification

Client:	Weston Solutions	**SDG No.:**	Q1352
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	**RunNo.:**	LB134677

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	**ICV1**						
Cyanide		mg/L	0.096	0.099	97	90-110	02/11/2025
Sample ID:	**CCV1**						
Cyanide		mg/L	0.25	0.25	100	90-110	02/11/2025
Sample ID:	**CCV2**						
Cyanide		mg/L	0.25	0.25	100	90-110	02/11/2025
Sample ID:	**CCV3**						
Cyanide		mg/L	0.25	0.25	100	90-110	02/11/2025
Sample ID:	**CCV4**						
Cyanide		mg/L	0.25	0.25	100	90-110	02/11/2025

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Initial and Continuing Calibration Blank Summary

Client:	Weston Solutions	**SDG No.:**	Q1352
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	**RunNo.:**	LB134677

Analyte		Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID:	ICB1							
Cyanide		mg/L	< 0.0025	0.0025	U	0.00099	0.005	02/11/2025
Sample ID:	CCB1							
Cyanide		mg/L	< 0.0025	0.0025	U	0.00099	0.005	02/11/2025
Sample ID:	CCB2							
Cyanide		mg/L	< 0.0025	0.0025	U	0.00099	0.005	02/11/2025
Sample ID:	CCB3							
Cyanide		mg/L	< 0.0025	0.0025	U	0.00099	0.005	02/11/2025
Sample ID:	CCB4							
Cyanide		mg/L	< 0.0025	0.0025	U	0.00099	0.005	02/11/2025

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Preparation Blank Summary

Client: Weston Solutions **SDG No.:** Q1352

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: PB166687BL							
Cyanide	mg/Kg	< 0.1250	0.1250	U	0.044	0.25	02/11/2025
Sample ID: PB166693BL							
Sulfide	mg/Kg	< 5.0000	5.0000	U	1.86	10.0	02/12/2025

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Matrix Spike Summary

Client: Weston Solutions
SDG No.: Q1352
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: Q1352-01
Client ID: TAP-IDW-SOIL-021025MS
Percent Solids for Spike Sample: 74.7

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	2.40		0.056	U	2.6	1	92		02/11/2025
Sulfide	mg/Kg	75-125	266		4.27	J	335	1	78		02/12/2025

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Matrix Spike Summary

Client: Weston Solutions
SDG No.: Q1352
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: Q1352-01
Client ID: TAP-IDW-SOIL-021025MSD
Percent Solids for Spike Sample: 74.7

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	2.50		0.056	U	2.6	1	96		02/11/2025
Sulfide	mg/Kg	75-125	264		4.27	J	335	1	78		02/12/2025

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Duplicate Sample Summary

Client: Weston Solutions
SDG No.: Q1352
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: Q1352-01
Client ID: TAP-IDW-SOIL-021025DUP
Percent Solids for Spike Sample: 74.7

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	0.056	U	0.058	U	1	0		02/11/2025
Sulfide	mg/Kg	+/-20	4.27	J	4.26	J	1	0.23		02/12/2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Duplicate Sample Summary

Client: Weston Solutions
SDG No.: Q1352
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: Q1352-01
Client ID: TAP-IDW-SOIL-021025MSD
Percent Solids for Spike Sample: 74.7

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	2.40		2.50		1	4		02/11/2025
Sulfide	mg/Kg	+/-20	266		264		1	0.75		02/12/2025

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Duplicate Sample Summary

Client: Weston Solutions
SDG No.: Q1352
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: Q1352-01
Client ID: TAP-IDW-SOIL-021025DUP
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	10.1		10.1		1	0.1		02/12/2025

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Duplicate Sample Summary

Client: Weston Solutions
SDG No.: Q1352
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: Q1356-03
Client ID: SOIL-PILEDUP
Percent Solids for Spike Sample: 85.8

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		02/12/2025

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Laboratory Control Sample Summary

Client:	Weston Solutions	**SDG No.:**	Q1352
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	**Run No.:**	LB134677

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID **PB166687BS**								
Cyanide	mg/Kg	5	4.90		98	1	85-115	02/11/2025

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Laboratory Control Sample Summary

Client:	Weston Solutions	**SDG No.:**	Q1352
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	**Run No.:**	LB134682

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID PB166693BS								
Sulfide	mg/Kg	250	210		84	1	80-120	02/12/2025

RAW DATA

Analytical Summary Report

Analysis Method: 9045D
Analyst By : jignesh
Parameter: pH
Supervisor Review By : Iwona
Run Number: LB134675
Slope : 98.6
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	02/12/2025	08:25
2	CAL2	1	Water	NA	NA	20.2	7.01	02/12/2025	08:26
3	CAL3	1	Water	NA	NA	20.3	10.02	02/12/2025	08:30
4	ICV	1	Water	NA	NA	20.2	6.98	02/12/2025	08:33
5	CCV1	1	Water	NA	NA	20.2	2.01	02/12/2025	08:37
6	Q1352-01	1	Solid	20.02	20	20.4	10.12	02/12/2025	08:45
7	Q1352-01DUP	1	Solid	20.03	20	20.5	10.13	02/12/2025	08:46
8	CCV2	1	Water	NA	NA	20.3	12.02	02/12/2025	08:50

Q1352-GENCHEM

WORKLIST(Hardcopy Internal Chain)

VB 134675

WorkList Name : ph s q1352 **WorkList ID :** 187650 **Department :** Wet-Chemistry **Date :** 02-12-2025 08:04:42

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1352-01 A	TAP-IDW-SOIL-021025	Solid	pH	Cool 4 deg C	WEST04	N51	02/10/2025	9045D

Date/Time 02/12/25 08:15

Raw Sample Received by: SB WDC

Raw Sample Relinquished by: [signature]

Date/Time 02/12/25 12:13

Raw Sample Received by: [signature]

Raw Sample Relinquished by: SB WDC

LB13

Test results — Aquakem 7.2AQ1 — Page: 1

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

2/11/2025 18:16 — Reviewed by : NF — Instrument ID : Konelab

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	95.822	0.0	0.076	
ICB1	0.705	0.0	0.002	
CCV1	245.931	0.0	0.192	
CCB1	0.700	0.0	0.002	
PB166677BL	0.666	0.0	0.002	
PB166677BS	98.168	0.0	0.078	
LOWPB166677	10.124	0.0	0.009	
HIGHPB166677	493.788	0.0	0.384	
Q1348-01	2.245	0.0	0.003	
Q1348-01DUP	2.271	0.0	0.003	
Q1348-01MS	37.670	0.0	0.031	
Q1348-01MSD	38.401	0.0	0.031	
CCV2	246.913	0.0	0.193	
CCB2	0.647	0.0	0.002	
Q1349-01	1.721	0.0	0.003	
PB166687BL	0.533	0.0	0.002	
PB166687BS	97.146	0.0	0.077	
Q1168-01	2.714	0.0	0.004	
Q1168-01 RE	4.318	0.0	0.005	
Q1168-02	5.112	0.0	0.005	
Q1352-01	0.220	0.0	0.002	
Q1352-01DUP	0.328	0.0	0.002	
Q1352-01MS	37.652	0.0	0.031	
Q1352-01MSD	38.804	0.0	0.032	
CCV3	250.370	0.0	0.196	
CCB3	0.904	0.0	0.002	
Q1168-09	2.677	0.0	0.004	
IDOC-01S	97.594	0.0	0.077	
IDOC-02S	98.446	0.0	0.078	
IDOC-03S	98.729	0.0	0.078	
IDOC-04S	97.688	0.0	0.077	
IDOC-01W	97.566	0.0	0.077	
IDOC-02W	96.526	0.0	0.076	
IDOC-03W	97.316	0.0	0.077	
IDOC-04W	97.052	0.0	0.077	
Q1168-09 RE	4.152	0.0	0.005	
CCV4	252.751	0.0	0.197	
CCB4	0.331	0.0	0.002	

101 % (90 - 110)
99 % (90 - 110) NF 02.11.2025

N	38
Mean	72.492
SD	104.3188
CV%	143.90

Aquakem v. 7.2AQ1
Results from time period:
Tue Feb 11 16:29:02 2025
Tue Feb 11 18:10:15 2025

Sample Id	Sam/Ctr/cA	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPBCN	A	Total CN	P	0.164	µg/l	2/11/2025 11:01:50	
5.0PPBCN	A	Total CN	P	5.1584	µg/l	2/11/2025 11:01:51	
10PPBCN	A	Total CN	P	10.2168	µg/l	2/11/2025 11:01:52	
50PPBCN	A	Total CN	P	49.6766	µg/l	2/11/2025 11:01:53	
100PPBCN	A	Total CN	P	98.6332	µg/l	2/11/2025 11:01:54	
250PPBCN	A	Total CN	P	251.7024	µg/l	2/11/2025 11:01:55	
500PPBCN	A	Total CN	P	499.4486	µg/l	2/11/2025 11:01:56	
ICV1	S	Total CN	P	95.8222	µg/l	2/11/2025 16:29:03	
ICB1	S	Total CN	P	0.7048	µg/l	2/11/2025 16:29:04	
CCV1	S	Total CN	P	245.9311	µg/l	2/11/2025 16:29:06	
CCB1	S	Total CN	P	0.6998	µg/l	2/11/2025 16:29:09	
PB166677BL	S	Total CN	P	0.6664	µg/l	2/11/2025 16:29:10	
PB166677BS	S	Total CN	P	98.1678	µg/l	2/11/2025 16:29:12	
LOWPB166677	S	Total CN	P	10.1239	µg/l	2/11/2025 16:36:38	
HIGHPB166677	S	Total CN	P	493.7875	µg/l	2/11/2025 16:36:40	
Q1348-01	S	Total CN	P	2.2449	µg/l	2/11/2025 16:36:47	
Q1348-01DUP	S	Total CN	P	2.2711	µg/l	2/11/2025 16:44:09	
Q1348-01MS	S	Total CN	P	37.6696	µg/l	2/11/2025 16:44:10	
Q1348-01MSD	S	Total CN	P	38.4014	µg/l	2/11/2025 16:44:11	
CCV2	S	Total CN	P	246.9133	µg/l	2/11/2025 16:44:14	
CCB2	S	Total CN	P	0.6471	µg/l	2/11/2025 16:44:15	
Q1349-01	S	Total CN	P	1.7206	µg/l	2/11/2025 16:44:16	
PB166687BL	S	Total CN	P	0.5332	µg/l	2/11/2025 16:44:18	
PB166687BS	S	Total CN	P	97.1465	µg/l	2/11/2025 16:44:19	
Q1168-01	S	Total CN	P	2.7144	µg/l	2/11/2025 16:51:44	
Q1168-01 RE	S	Total CN	P	4.3178	µg/l	2/11/2025 16:51:45	
Q1168-02	S	Total CN	P	5.1119	µg/l	2/11/2025 16:51:46	
Q1352-01	S	Total CN	P	0.2204	µg/l	2/11/2025 16:51:47	
Q1352-01DUP	S	Total CN	P	0.328	µg/l	2/11/2025 16:51:48	
Q1352-01MS	S	Total CN	P	37.6515	µg/l	2/11/2025 16:51:51	
Q1352-01MSD	S	Total CN	P	38.8035	µg/l	2/11/2025 16:51:52	
CCV3	S	Total CN	P	250.3698	µg/l	2/11/2025 16:51:53	
CCB3	S	Total CN	P	0.9044	µg/l	2/11/2025 16:51:54	
Q1168-09	S	Total CN	P	2.6769	µg/l	2/11/2025 17:29:35	
IDOC-01S	S	Total CN	P	97.5938	µg/l	2/11/2025 17:29:39	
IDOC-02S	S	Total CN	P	98.4456	µg/l	2/11/2025 17:29:41	
IDOC-03S	S	Total CN	P	98.7287	µg/l	2/11/2025 17:29:44	
IDOC-04S	S	Total CN	P	97.6876	µg/l	2/11/2025 17:36:46	
IDOC-01W	S	Total CN	P	97.5657	µg/l	2/11/2025 17:36:49	

IDOC-02W	S	Total CN	P	96.5258 µg/l	2/11/2025 17:36:52
IDOC-03W	S	Total CN	P	97.3157 µg/l	2/11/2025 17:36:53
IDOC-04W	S	Total CN	P	97.0522 µg/l	2/11/2025 17:44:00
Q1168-09 RE	S	Total CN	P	4.1517 µg/l	2/11/2025 18:10:08
CCV4	S	Total CN	P	252.7511 µg/l	2/11/2025 18:10:12
CCB4	S	Total CN	P	0.3309 µg/l	2/11/2025 18:10:15

Calibration results Aquakem 7.2AQ1

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

2/11/2025 11:03 Reviewed by : NF Instrument ID : Konelab

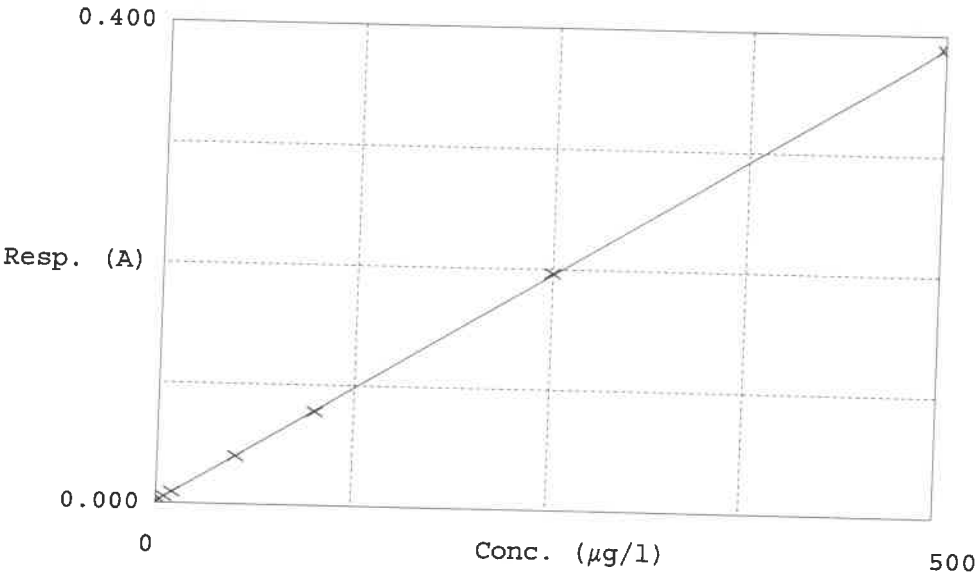
Test Total CN

Accepted 2/11/2025 11:03

Factor 1290
Bias 0.001

Coeff. of det. 0.999974

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	0.0PPBCN	0.002	0.1640	0.0000	
2	5.0PPBCN	0.005	5.1584	5.0000	3.2
3	10PPBCN	0.009	10.2168	10.0000	2.2
4	50PPBCN	0.040	49.6766	50.0000	-0.6
5	100PPBCN	0.078	98.6332	100.0000	-1.4
6	250PPBCN	0.197	251.7024	250.0000	0.7
7	500PPBCN	0.389	499.4486	500.0000	-0.1

Re
NF
02.11.2025

Analytical Summary Report

Analysis Method: 1030
Reviewed By: rubina
Parameter: Ignitability
Supervisor Review By: Iwona
Run Number: LB134681

Seq	LabID	ClientID	DF	matrix	Result Status	Burning Rate	Anal Date	Anal Time
1	Q1352-01	TAP-IDW-SOIL-021025	1	Solid	NO	0.00	02/12/2025	10:15
2	Q1353-01	346	1	Solid	NO	0.00	02/12/2025	10:22
3	Q1353-02	346	1	Solid	NO	0.00	02/12/2025	10:30
4	Q1356-01	CARBON-SOLID	1	Solid	NO	0.00	02/12/2025	10:37
5	Q1356-03	SOIL-PILE	1	Solid	NO	0.00	02/12/2025	10:45
6	Q1356-03DUP	SOIL-PILEDUP	1	Solid	NO	0.00	02/12/2025	10:52

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

WORKLIST(Hardcopy Internal Chain)

LB134681

WorkList Name : ign-2-12 **WorkList ID :** 187656 **Department :** Wet-Chemistry **Date :** 02-12-2025 08:19:22

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1352-01 C	TAP-IDW-SOIL-021025	Solid	Ignitability	Cool 4 deg C	WEST04	N51	02/10/2025	1030
Q1353-01 B	346	Solid	Ignitability	Cool 4 deg C	PSEG03	N41	02/11/2025	1030
Q1353-02 B	346	Solid	Ignitability	Cool 4 deg C	PSEG03	N41	02/11/2025	1030
Q1356-01 C	CARBON-SOLID	Solid	Ignitability	Cool 4 deg C	PSEG04	N51	02/11/2025	1030
Q1356-03 C	SOIL-PILE	Solid	Ignitability	Cool 4 deg C	PSEG04	N51	02/11/2025	1030

Date/Time 02/12/2025 10.05
Raw Sample Received by: RM (WC)
Raw Sample Relinquished by: [signature] (WC)

Date/Time 02/12/2025 11.4[illegible]
Raw Sample Received by: [signature] (WC)
Raw Sample Relinquished by: RM (WC)

Alliance TECHNICAL GROUP

Analytical Summary Report

Analysis Method: 9034
Parameter: Sulfide
Run Number: LB134682

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	PB166693BL		1	5.00	50	5.00	0.00	4.90	4.90	0.10	0.00	0.00	02/12/2025	12:30
2	PB166693BS	250	1	5.00	50	5.00	0.00	2.28	2.28	2.72	2.62	209.60	02/12/2025	12:33
3	Q1352-01		1	5.02	50	5.00	0.00	4.86	4.86	0.14	0.04	3.19	02/12/2025	12:36
4	Q1352-01DUP		1	5.03	50	5.00	0.00	4.86	4.86	0.14	0.04	3.18	02/12/2025	12:39
5	Q1352-01MS	250	1	5.03	50	5.00	0.00	2.40	2.40	2.60	2.50	198.81	02/12/2025	12:42
6	Q1352-01MSD	250	1	5.03	50	5.00	0.00	2.42	2.42	2.58	2.48	197.22	02/12/2025	12:45

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

Alliance TECHNICAL GROUP

Soil/Sludge Cyanide Preparation Sheet

PB166687

SOP ID : N/A

SDG No : N/A

Matrix : SOIL

Pippete ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#1

Block ID : MC-1, MC-2

Weigh By : JP

Start Digest Date: 02/11/2025 **Time :** 14:40 **Temp :** 124 °C

End Digest Date: 02/11/2025 **Time :** 16:10 **Temp :** 126 °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: JZ

Standared Name	MLS USED	STD REF. # FROM LOG
LCSS	1ML	WP111296
MS/MSD SPIKE SOL.	0.40ML	WP111295
PBS003	50ML	W3112
LOD	1.25ML	WP111886
LOD	2.00ML	WP111886

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

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	AS PER PB166677
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	AS PER PB166677
LOWSTD	LOWSTD	0.1ML	AS PER PB166677

Extraction Conformance/Non-Conformance Comments:

LOQ WP111886 2.5ML

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
02.11.2025, 16:20	JP / GC	NF(WC)
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Soil/Sludge Cyanide Preparation Sheet

PB166687

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB166687BL	PB166687BL	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A
PB166687BS	LCS687	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1168-01	LOD-MDL-SOIL-01-QT1-2025	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1168-02	LOQ-SOIL-02-QT1-2025	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1352-01	TAP-IDW-SOIL-021025	1.05	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1352-01DUP	TAP-IDW-SOIL-021025DUP	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1352-01MS	TAP-IDW-SOIL-021025MS	1.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1352-01MSD	TAP-IDW-SOIL-021025MSD	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A

IDOC-01

IDOC-02

IDOC-03

IDOC-04

NF
02.11.2025

WORKLIST(Hardcopy Internal Chain)

WorkList Name : cn s q1252 **WorkList ID :** 187643 **Department :** Distillation **Date :** 02-11-2025 12:26:32

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1168-01	LOD-MDL-SOIL-01-QT1-2025	Solid	Cyanide	Cool 4 deg C	CHEM02	QA Of	01/23/2025	9012B
Q1168-02	LOQ-SOIL-02-QT1-2025	Solid	Cyanide	Cool 4 deg C	CHEM02	QA Of	01/23/2025	9012B
Q1352-01	TAP-IDW-SOIL-021025	Solid	Cyanide	Cool 4 deg C	WEST04	N51	02/10/2025	9012B

Date/Time 02.11.2025, 14:10
Raw Sample Received by: IR (@C)
Raw Sample Relinquished by:

Date/Time 02.11.2025, 16:30
Raw Sample Received by:
Raw Sample Relinquished by: IR (@C)

Alliance TECHNICAL GROUP

Soil/Sludge Sulfide Preparation Sheet

PB166693

SOP ID : M9030B-Sulfide-12

SDG No : N/A

Matrix : SOIL

Pippete ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#1

Block ID : MC-1,MC-2

Weigh By : RM

Start Digest Date: 02/12/2025 **Time :** 09:10 **Temp :** 70 °C

End Digest Date: 02/12/2025 **Time :** 10:40 **Temp :** 72 °C

Digestion tube ID : M5595

Filter paper ID : N/A

pH Meter ID : N/A

Block Thermometer ID : WC CYANIDE

Prep Technician Signature: RM

Supervisor Signature: 12

Standared Name	MLS USED	STD REF. # FROM LOG
LCSW	1.25ML	WP111889
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
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

N/A

02/12/2025 RM

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

Alliance TECHNICAL GROUP

Soil/Sludge Sulfide Preparation Sheet

PB166693

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB166693BL	PBW693	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A
PB166693BS	LCS693	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1352-01DUP	TAP-IDW-SOIL-021025DUP	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1352-01MS	TAP-IDW-SOIL-021025MS	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1352-01MSD	TAP-IDW-SOIL-021025MSD	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1352-01	TAP-IDW-SOIL-021025	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : sulfide-2-11 **WorkList ID :** 187644 **Department :** Distillation **Date :** 02-11-2025 12:32:58

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1352-01 B	TAP-IDW-SOIL-021025	Solid	Sulfide	Cool 4 deg C	WEST04	N51	02/10/2025	9034

Date/Time 02/12/2025 08.25
Raw Sample Received by: RM (WL)
Raw Sample Relinquished by: [signature]

Date/Time 02/12/2025 09.25
Raw Sample Received by: [signature]
Raw Sample Relinquished by: RM (WL)

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

Instrument ID: WC PH METER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB134675

Review By	jignesh	Review On	2/12/2025 9:10:42 AM
Supervise By	Iwona	Supervise On	2/12/2025 11:16:35 AM
SubDirectory	LB134675	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	02/12/25 08:25		Jignesh	OK
2	CAL2	CAL2	CAL	02/12/25 08:26		Jignesh	OK
3	CAL3	CAL3	CAL	02/12/25 08:30		Jignesh	OK
4	ICV	ICV	ICV	02/12/25 08:33		Jignesh	OK
5	CCV1	CCV1	CCV	02/12/25 08:37		Jignesh	OK
6	Q1352-01	TAP-IDW-SOIL-02102	SAM	02/12/25 08:45		Jignesh	OK
7	Q1352-01DUP	TAP-IDW-SOIL-02102	DUP	02/12/25 08:46		Jignesh	OK
8	CCV2	CCV2	CCV	02/12/25 08:50		Jignesh	OK

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

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB134677

Review By	Niha	Review On	2/13/2025 9:20:10 AM
Supervise By	Iwona	Supervise On	2/13/2025 11:27:39 AM
SubDirectory	LB134677	Test	Cyanide

STD. NAME	STD REF.#
ICAL Standard	WP111877,WP111878,WP111879,WP111880,WP111881,WP111882,WP111883
ICV Standard	W3012
CCV Standard	WP111878
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP111296
Chk Standard	WP111035,WP110103,WP111885,WP111886

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	02/11/25 11:01		Niha	OK
2	5.0PPBCN	5.0PPBCN	CAL2	02/11/25 11:01		Niha	OK
3	10PPBCN	10PPBCN	CAL3	02/11/25 11:01		Niha	OK
4	50PPBCN	50PPBCN	CAL4	02/11/25 11:01		Niha	OK
5	100PPBCN	100PPBCN	CAL5	02/11/25 11:01		Niha	OK
6	250PPBCN	250PPBCN	CAL6	02/11/25 11:01		Niha	OK
7	500PPBCN	500PPBCN	CAL7	02/11/25 11:01		Niha	OK
8	ICV1	ICV1	ICV	02/11/25 16:29		Niha	OK
9	ICB1	ICB1	ICB	02/11/25 16:29		Niha	OK
10	CCV1	CCV1	CCV	02/11/25 16:29		Niha	OK
11	CCB1	CCB1	CCB	02/11/25 16:29		Niha	OK
12	PB166677BL	PB166677BL	MB	02/11/25 16:29		Niha	OK
13	PB166677BS	PB166677BS	LCS	02/11/25 16:29		Niha	OK
14	LOWPB166677	LOWPB166677	SAM	02/11/25 16:36		Niha	OK
15	HIGHPB166677	HIGHPB166677	SAM	02/11/25 16:36		Niha	OK
16	Q1348-01	TWP-1-WC	SAM	02/11/25 16:36		Niha	OK
17	Q1348-01DUP	TWP-1-WCDUP	DUP	02/11/25 16:44		Niha	OK
18	Q1348-01MS	TWP-1-WCMS	MS	02/11/25 16:44		Niha	OK

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

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB134677

Review By	Niha	Review On	2/13/2025 9:20:10 AM
Supervise By	Iwona	Supervise On	2/13/2025 11:27:39 AM
SubDirectory	LB134677	Test	Cyanide

STD. NAME	STD REF.#
ICAL Standard	WP111877,WP111878,WP111879,WP111880,WP111881,WP111882,WP111883
ICV Standard	W3012
CCV Standard	WP111878
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP111296
Chk Standard	WP111035,WP110103,WP111885,WP111886

19	Q1348-01MSD	TWP-1-WCMSD	MSD	02/11/25 16:44		Niha	OK
20	CCV2	CCV2	CCV	02/11/25 16:44		Niha	OK
21	CCB2	CCB2	CCB	02/11/25 16:44		Niha	OK
22	Q1349-01	TWP-1-PERMIT	SAM	02/11/25 16:44		Niha	OK
23	PB166687BL	PB166687BL	MB	02/11/25 16:44		Niha	OK
24	PB166687BS	PB166687BS	LCS	02/11/25 16:44		Niha	OK
25	Q1168-01	LOD-MDL-SOIL-01-Q	SAM	02/11/25 16:51		Niha	OK
26	Q1168-01RE	LOD-MDL-SOIL-01-Q	SAM	02/11/25 16:51		Niha	OK
27	Q1168-02	LOQ-SOIL-02-QT1-20	LOQ	02/11/25 16:51		Niha	OK
28	Q1352-01	TAP-IDW-SOIL-02102	SAM	02/11/25 16:51		Niha	OK
29	Q1352-01DUP	TAP-IDW-SOIL-02102	DUP	02/11/25 16:51		Niha	OK
30	Q1352-01MS	TAP-IDW-SOIL-02102	MS	02/11/25 16:51		Niha	OK
31	Q1352-01MSD	TAP-IDW-SOIL-02102	MSD	02/11/25 16:51		Niha	OK
32	CCV3	CCV3	CCV	02/11/25 16:51		Niha	OK
33	CCB3	CCB3	CCB	02/11/25 16:51		Niha	OK
34	Q1168-09	MDL-WATER-03-QT1	SAM	02/11/25 17:29		Niha	OK
35	IDOC-01S	IDOC-01S	LCS	02/11/25 17:29		Niha	OK
36	IDOC-02S	IDOC-02S	LCS	02/11/25 17:29		Niha	OK
37	IDOC-03S	IDOC-03S	LCS	02/11/25 17:29		Niha	OK
38	IDOC-04S	IDOC-04S	LCS	02/11/25 17:36		Niha	OK

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Fax : 908 789 8922

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB134677

Review By	Niha	Review On	2/13/2025 9:20:10 AM
Supervise By	Iwona	Supervise On	2/13/2025 11:27:39 AM
SubDirectory	LB134677	Test	Cyanide

STD. NAME	STD REF.#
ICAL Standard	WP111877,WP111878,WP111879,WP111880,WP111881,WP111882,WP111883
ICV Standard	W3012
CCV Standard	WP111878
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP111296
Chk Standard	WP111035,WP110103,WP111885,WP111886

39	IDOC-01W	IDOC-01W	LCS	02/11/25 17:36		Niha	OK
40	IDOC-02W	IDOC-02W	LCS	02/11/25 17:36		Niha	OK
41	IDOC-03W	IDOC-03W	LCS	02/11/25 17:36		Niha	OK
42	IDOC-04W	IDOC-04W	LCS	02/11/25 17:44		Niha	OK
43	Q1168-09	MDL-WATER-03-QT1	SAM	02/11/25 18:10		Niha	OK
44	CCV4	CCV4	CCV	02/11/25 18:10		Niha	OK
45	CCB4	CCB4	CCB	02/11/25 18:10		Niha	OK

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

Instrument ID: FLAME

Daily Analysis Runlog For Sequence/QCBatch ID # LB134681

Review By	rubina	Review On	2/12/2025 3:06:39 PM
Supervise By	Iwona	Supervise On	2/12/2025 3:40:40 PM
SubDirectory	LB134681	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	Q1352-01	TAP-IDW-SOIL-02102	SAM	02/12/25 10:15		rubina	OK
2	Q1353-01	346	SAM	02/12/25 10:22		rubina	OK
3	Q1353-02	346	SAM	02/12/25 10:30		rubina	OK
4	Q1356-01	CARBON-SOLID	SAM	02/12/25 10:37		rubina	OK
5	Q1356-03	SOIL-PILE	SAM	02/12/25 10:45		rubina	OK
6	Q1356-03DUP	SOIL-PILEDUP	DUP	02/12/25 10:52		rubina	OK

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Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB134682

Review By	rubina	Review On	2/12/2025 1:19:47 PM
Supervise By	Iwona	Supervise On	2/12/2025 1:20:05 PM
SubDirectory	LB134682	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	PB166693BL	PB166693BL	MB	02/12/25 12:30		rubina	OK
2	PB166693BS	PB166693BS	LCS	02/12/25 12:33		rubina	OK
3	Q1352-01	TAP-IDW-SOIL-02102	SAM	02/12/25 12:36		rubina	OK
4	Q1352-01DUP	TAP-IDW-SOIL-02102	DUP	02/12/25 12:39		rubina	OK
5	Q1352-01MS	TAP-IDW-SOIL-02102	MS	02/12/25 12:42		rubina	OK
6	Q1352-01MSD	TAP-IDW-SOIL-02102	MSD	02/12/25 12:45		rubina	OK

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Prep Standard - Chemical Standard Summary

Order ID : Q1352

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

Prepbatch ID : PB166687,PB166693,

Sequence ID/Qc Batch ID: LB134675,LB134677,LB134681,LB134682,

Standard ID :
WP110103,WP110390,WP110391,WP111004,WP111035,WP111294,WP111295,WP111296,WP111876,WP111877,WP111878,WP111879,WP111880,WP111881,WP111882,WP111883,WP111885,WP111886,WP111889,

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,W3156,W3161,

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
539	CN BUFFER	WP110103	10/08/2024	04/08/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 10/08/2024

FROM 138.00000gram of W2668 + 862.00000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3214	Magnesium Chloride For Cyanide 2.5M(51%W/V)	WP110390	10/24/2024	04/24/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 10/24/2024

FROM 500.00000ml of W3112 + 510.00000gram of W3001 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
160	0.5M ZINC ACETATE	WP111004	12/09/2024	05/13/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCSC-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

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
607	PYRIDINE-BARBITURIC ACID	WP111035	12/09/2024	04/30/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
11	Sodium hydroxide absorbing solution 0.25 N	WP111294	01/07/2025	07/07/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 01/07/2025

FROM 21.00000L of W3112 + 210.00000gram of W3113 = Final Quantity: 21.000 L

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3850	Cyanide MS-MSD spiking solution, 5PPM	WP111295	01/07/2025	07/07/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 01/07/2025

FROM 1.00000ml of W3154 + 199.00000ml of WP111294 = Final Quantity: 200.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3371	Cyanide LCS Spike Solution, 5PPM	WP111296	01/07/2025	07/07/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 01/07/2025

FROM 1.00000ml of W3138 + 199.00000ml of WP111294 = Final Quantity: 200.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3456	Cyanide Intermediate Working Std, 5PPM	WP111876	02/11/2025	02/12/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 02/14/2025

FROM 0.25000ml of W3154 + 49.75000ml of WP111294 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
4	Calibation standard 500 ppb	WP111877	02/11/2025	02/12/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 02/14/2025

FROM 45.00000ml of WP111294 + 5.00000ml of WP111876 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3761	Calibration-CCV CN Standard 250 ppb	WP111878	02/11/2025	02/12/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 02/14/2025

FROM 2.50000ml of WP111876 + 47.50000ml of WP111294 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
6	Calibration Standard 100 ppb	WP111879	02/11/2025	02/12/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 02/14/2025

FROM 1.00000ml of WP111876 + 49.00000ml of WP111294 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
7	Calibration Standard 50 ppb	WP111880	02/11/2025	02/12/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 02/14/2025

FROM 0.50000ml of WP111876 + 49.50000ml of WP111294 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
8	Calibration Standard 10 ppb	WP111881	02/11/2025	02/12/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 02/14/2025

FROM 1.00000ml of WP111877 + 49.00000ml of WP111294 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
9	Calibration Standard 5 ppb	WP111882	02/11/2025	02/12/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 02/14/2025

FROM 0.50000ml of WP111877 + 49.50000ml of WP111294 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
167	0 ppb CN calibration std	WP111883	02/11/2025	02/12/2025	Niha Farheen Shaik	None	None	Iwona Zarych 02/14/2025

FROM 50.00000ml of WP111294 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1582	Chloramine T solution, 0.014M	WP111885	02/11/2025	02/12/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 02/14/2025

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1649	Cyanide LOD LOQ Spike Std, 100ppb	WP111886	02/11/2025	02/12/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 02/14/2025

FROM 1.00000ml of WP111296 + 49.00000ml of WP111294 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3311	Sulfide Int std, 1000PPM	WP111889	02/12/2025	02/13/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 02/14/2025

FROM 0.75000gram of W3156 + 99.00000ml of W3112 = Final Quantity: 100.000 ml

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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, CRYS, 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 / Iwona	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

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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,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 / Iwona	06/06/2022 / Iwona	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 / Iwona	02/20/2020 / Iwona	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 / Iwona	04/03/2023 / Iwona	W3019

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

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

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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,4LITRE	4403S13	09/30/2025	04/22/2024 / Iwona	04/22/2024 / Iwona	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 / Iwona	07/03/2024 / Iwona	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 / Iwona	07/08/2024 / Iwona	W3113

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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 / Iwona	07/10/2024 / Iwona	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 / Iwona	08/28/2024 / Iwona	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 / Iwona	09/09/2024 / Iwona	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 / Iwona	09/17/2024 / Iwona	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 / Iwona	10/16/2024 / Iwona	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 / Iwona	12/02/2024 / Iwona	W3154

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CHEMICAL RECEIPT LOG BOOK

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 / Iwona	12/03/2024 / Iwona	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 / Iwona	12/09/2024 / Iwona	W3161

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W3071
Rec 12/6/23

Certificate of Analysis

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

~~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•$6H_2O$
CAS Number	7791-18-6
Molecular Formula	$MgCl_2$•$6H_2O$
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

Sigma-Aldrich.

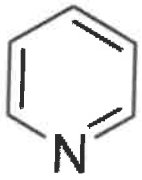
W3019
Rec 4/3/23

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside 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

RICCA CHEMICAL COMPANY®

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

W3072
rec. 12/01/23
12

Certificate of Analysis

Buffer, Reference Standard, pH 12.00 ± 0.01 at 25°C

Lot Number: 2310P21 **Product Number:** 1615

Manufacture Date: OCT 24, 2023
Expiration Date: APR 2025

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

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

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

Test	Specification	Result	
Appearance	Colorless liquid	Passed	*Not a certified value.

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

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

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

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

Sharon Travers (10/24/2023)
Operations Manager
This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

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 (SO4)		0.002	<0.0020	%
Titrable 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

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.

W3011
W3012
W3013
W3014
W3015

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

A15673-78
A-3

avantor™ | J.T.Baker®

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_2SO_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 SO2)	≤ 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

avantor™ | J.T.Baker®

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

James T Ethier

Jamie Ethier
Vice President Global Quality

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

M 6041-46
MS

avantor™ | J.T.Baker®

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_2SO_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 SO2)	≤ 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

avantor™ | J.T.Baker®

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

James T Ethier
Jamie Ethier
Vice President Global Quality

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

avantor™ | J.T.Baker®

R → 10/13/24
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 ($NaH_2PO_4 \cdot H_2O$)	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

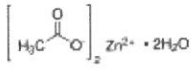
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

W2926
open 7/5/22
received
on
7/5/22

Certificate of Analysis

Product Name:
Zinc acetate dihydrate - ACS reagent, ≥98%



Product Number:	**383058**
Batch Number:	**MKCQ9159**
Brand:	SIGALD
CAS Number:	5970-45-6
MDL Number:	MFCD00066961
Formula:	C4H6O4Zn · 2H2O
Formula Weight:	219.51 g/mol
Quality Release Date:	06 JAN 2022

Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder or Crystal or Chunk(s)	Powder
Infrared Spectrum	Conforms to Structure	Conforms
Insoluble Matter	≤ 0.005 %	0.003 %
Calcium (Ca)	≤ 0.005 %	0.003 %
Chloride (Cl)	≤ 5 ppm	< 5 ppm
Iron (Fe)	≤ 5 ppm	< 5 ppm
Potassium (K)	≤ 0.01 %	0.00 %
Magnesium (Mg)	≤ 0.005 %	0.003 %
Sodium (Na)	≤ 0.05 %	0.03 %
Lead (Pb)	≤ 0.002 %	< 0.001 %
pH	6.0 - 7.0	6.1
Sulfate (SO4)	≤ 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

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

W3093 09412.. 04/03/2024 LG

Certificate of Analysis

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

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

W3094 78 open: 04/03/2025

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

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W3105 Received on 4/22/24 by IZ

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-Cl 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."

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W3107
38

Certificate of Analysis

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

Lot Number: 4403F90 **Product Number:** 1501

Manufacture Date: MAR 09, 2024
Expiration Date: FEB 2026

The certified value for this product is confirmed in independent testing by a second qualified chemist.
The NIST Traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

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

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

Test	Specification	Result	
Appearance	Red liquid	Passed	*Not a certified value.

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

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

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

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

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

Paul Brandon (03/09/2024)
Production Manager
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

Certificate of Analysis

Sodium Hydroxide (Pellets)

Material: 0583

Grade: ACS GRADE

Batch Number: 23B1556310

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

Pellets

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

Storage: Room Temperature

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.

Certificate of Analysis

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

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.

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Pocomoke City, MD 21851
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Certificate of Analysis

Iodine (Iodine-Iodide), 0.0250 Normal (N/40), 1 mL = 0.4008 mg S^{2-}

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

LabChem
Part of TCP Analytical Group
Jackson's Pointe Commerce Park- Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063

Certificate of Analysis

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

Product Code: **LC13545**

Manufacture Date: August 01, 2024

Lot Number: **44080060**

Expiration Date: January 30, 2025

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

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

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

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

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

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

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

Michael Monteleone

Michael Monteleone
Chemistry Supervisor - Quality Control

ISO9001:2015 Registration #0306-01

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

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Certificate of Analysis

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

Lot Number: 4408P62 **Product Number:** 8000

Manufacture Date: AUG 28, 2024
Expiration Date: AUG 2026

This product is Mercury-free.

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

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

Specification	Reference
Starch Solution	APHA (4500-S2- F)
Starch Indicator Solution	APHA (4500-Cl 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-Cl 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)

Paul Brandon (08/28/2024)
Production Manager

RICCA CHEMICAL COMPANY®
W3154 Rec. on 12/2/24 by IZ

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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 certifiec 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)

Luis Briceno (11/22/2024)
Operations Supervisor

Certificate of Analysis

Item Number	Product Description	Lot Number
SX0770-1	Sodium Sulfide Nonahydrate, ACS Grade, 500GM	241836
Formula	**Molecular Weight**	**CAS Number**
$Na_2S \bullet 9H_2O$	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 $Na_2S_2O_3$	%	≥ 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 Schoellkopff,
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

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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

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 2/12/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:10
In Date: 02/11/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:14
Out Date: 02/12/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB134670

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
Q1352-01	TAP-IDW-SOIL-021025	1	1.15	8.59	9.74	7.57	74.7	
Q1352-02	TAP-IDW-SOIL-021025	2	1.15	8.59	9.74	7.57	74.7	
Q1353-01	346	3	1.15	8.66	9.81	8.92	89.7	
Q1354-01	NB-08-021125	4	1.16	8.81	9.97	9.00	89.0	
Q1354-02	NB-08-021125-E2	5	1.17	8.61	9.78	8.75	88.0	
Q1356-01	CARBON-SOLID	6	1.16	8.81	9.97	5.08	44.5	
Q1356-03	SOIL-PILE	7	1.18	8.51	9.69	8.48	85.8	

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

WORKLIST(Hardcopy Internal Chain)

JB 134670

WorkList Name : %1-021125 **WorkList ID :** 187645 **Department :** Wet-Chemistry **Date :** 02-11-2025 12:35:45

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1352-01	TAP-IDW-SOIL-021025	Solid	Percent Solids	Cool 4 deg C	WEST04	N51	02/10/2025	Chemtech -SO
Q1352-02	TAP-IDW-SOIL-021025	Solid	Percent Solids	Cool 4 deg C	WEST04	N51	02/10/2025	Chemtech -SO
Q1353-01	346	Solid	Percent Solids	Cool 4 deg C	PSEG03	N41	02/11/2025	Chemtech -SO
Q1354-01	NB-08-021125	Solid	Percent Solids	Cool 4 deg C	PSEG05	N41	02/11/2025	Chemtech -SO
Q1354-02	NB-08-021125-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	N41	02/11/2025	Chemtech -SO
Q1356-01	CARBON-SOLID	Solid	Percent Solids	Cool 4 deg C	PSEG05	N41	02/11/2025	Chemtech -SO
Q1356-03	SOIL-PILE	Solid	Percent Solids	Cool 4 deg C	PSEG04	N51	02/11/2025	Chemtech -SO

Date/Time 02/11/25 16:10

Raw Sample Received by: JB Welc

Raw Sample Relinquished by: CB SR

Date/Time 02-11-25 17:15

Raw Sample Received by: CB SR

Raw Sample Relinquished by: JB Welc

SHIPPING DOCUMENTS

Weston COC ID
Weston_20250210_1440

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	0111169	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		

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

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

#	Sample ID	G/C	Matrix	# Cont	MS/MSD	Date Collected	Time Collected	TCLP VOCs by EPA 8260D (1311)	TCLP SVOCs by EPA 8270E (1311)	TCLP Metals by EPA 6010D/7470A	TCLP Pesticides by EPA 8081B	TCLP Herbicides by EPA 8151A	Total Sulfide by EPA 9034	Total Cyanide by EPA 9012B	PCB by EPA 8082A	Ignitability by EPA 1030	pH by EPA 9045D	Special Instructions/Comments
Analyses Requested:																		
Container Type:								Encore	Glass	Glass	Glass	Glass	Glass	Glass	Glass	Glass	Glass	
Container Size:								25g	8 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	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	
1	~~TAP-SOIL-IDW-021025~~ TAP-IDW-SOIL-021025	c	DS	6	no	2/10/2025	13:40	X	X	X	X	X	X	X	X	X	X	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

CH

FedEx Shipping Airbill Number: 7719 9075 4644

Cooler Number: 1 of 1

	Relinquished By	Date	Time	Received By	Date	Time	Additional Comments
1.)	[signature]	10 Feb 25	1800	yg 3.1	2/18/2025 9.10		QSM 6.0 Compliant
2.)							Deliverable Requirements: DoD Level IV report, EnviroData EDD, and ERIS-compatible EDD
3.)							

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