

DATA REPORTING QUALIFIERS- INORGANIC

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

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

LAB CHRONICLE

OrderID:	Q3604	OrderDate:	11/10/2025 4:28:38 PM
Client:	Roman E&G Corp	Project:	MCUA - New Brunswick
Contact:	Amanda Gentle	Location:	D41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q3604-01	S-1	SOIL			11/10/25 14:40			11/10/25
			Corrosivity	9045D			11/12/25 14:25	
			Ignitability	1030			11/11/25 12:55	
			Reactive Cyanide	9012B		11/12/25	11/12/25 16:15	
			Reactive Sulfide	9034		11/11/25	11/12/25 09:37	
Q3604-02	S-2	SOIL			11/10/25 14:45			11/10/25
			Corrosivity	9045D			11/12/25 14:37	
			Ignitability	1030			11/11/25 13:03	
			Reactive Cyanide	9012B		11/12/25	11/12/25 16:22	
			Reactive Sulfide	9034		11/11/25	11/12/25 09:42	



SAMPLE DATA

Report of Analysis

Client: Roman E&G Corp
Project: MCUA - New Brunswick
Client Sample ID: S-1
Lab Sample ID: Q3604-01

Date Collected: 11/10/25 14:40
Date Received: 11/10/25
SDG No.: Q3604
Matrix: SOIL
% Solid: 82.8

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity	7.70	H	1	0	0	pH		11/12/25 14:25	9045D
Ignitability	NO		1	0	0	oC		11/11/25 12:55	1030
Reactive Cyanide	0.0084	U	1	0.0084	0.050	mg/Kg	11/12/25 11:00	11/12/25 16:15	9012B
Reactive Sulfide	4.78	J	1	0.20	10.0	mg/Kg	11/11/25 16:05	11/12/25 09:37	9034

Comments: pH result reported at temperature 20.6 °C

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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

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

OR = Over Range

N = Spiked sample recovery not within control limits

Report of Analysis

Client: Roman E&G Corp
Project: MCUA - New Brunswick
Client Sample ID: S-2
Lab Sample ID: Q3604-02

Date Collected: 11/10/25 14:45
Date Received: 11/10/25
SDG No.: Q3604
Matrix: SOIL
% Solid: 82.7

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity	8.66	H	1	0	0	pH		11/12/25 14:37	9045D
Ignitability	NO		1	0	0	oC		11/11/25 13:03	1030
Reactive Cyanide	0.0084	U	1	0.0084	0.050	mg/Kg	11/12/25 11:00	11/12/25 16:22	9012B
Reactive Sulfide	3.16	J	1	0.20	10.0	mg/Kg	11/11/25 16:05	11/12/25 09:42	9034

Comments: pH result reported at temperature 20.1 °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

Initial and Continuing Calibration Verification

Client: Roman E&G Corp

SDG No.: Q3604

Project: MCUA - New Brunswick

RunNo.: LB137874

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 Reactive Cyanide	mg/L	0.095	0.099	96	85-115	11/12/2025
Sample ID: CCV1 Reactive Cyanide	mg/L	0.24	0.25	96	90-110	11/12/2025
Sample ID: CCV2 Reactive Cyanide	mg/L	0.24	0.25	96	90-110	11/12/2025
Sample ID: CCV3 Reactive Cyanide	mg/L	0.25	0.25	100	90-110	11/12/2025

Initial and Continuing Calibration Verification

Client: Roman E&G Corp

SDG No.: Q3604

Project: MCUA - New Brunswick

RunNo.: LB137876

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Corrosivity	pH	7.01	7	100	90-110	11/12/2025
Sample ID: CCV1 Corrosivity	pH	2.01	2.00	101	90-110	11/12/2025
Sample ID: CCV2 Corrosivity	pH	12.02	12.00	100	90-110	11/12/2025

Initial and Continuing Calibration Blank Summary

Client: Roman E&G Corp

SDG No.: Q3604

Project: MCUA - New Brunswick

RunNo.: LB137874

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	11/12/2025
Sample ID: CCB1 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	11/12/2025
Sample ID: CCB2 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	11/12/2025
Sample ID: CCB3 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	11/12/2025

Preparation Blank Summary

Client: Roman E&G Corp

SDG No.: Q3604

Project: MCUA - New Brunswick

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: PB170512BL							
Reactive Sulfide	mg/Kg	< 5.0000	5.0000	U	0.201	10	11/12/2025
Sample ID: PB170520BL							
Reactive Cyanide	mg/Kg	< 0.0250	0.0250	U	0.0084	0.05	11/12/2025

Duplicate Sample Summary

Client: Roman E&G Corp	SDG No.: Q3604
Project: MCUA - New Brunswick	Sample ID: Q3563-01
Client ID: 81525-aDUP	Percent Solids for Spike Sample: 96.2

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Ignitability	oC	+/-20	NO		NO		1	0		11/11/2025

Duplicate Sample Summary

Client:	Roman E&G Corp	SDG No.:	Q3604
Project:	MCUA - New Brunswick	Sample ID:	Q3598-02
Client ID:	EO-CONCRETEDUP	Percent Solids for Spike Sample:	100

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Reactive Cyanide	mg/Kg	+/-20	0.0083	U	0.0083	U	1	0		11/12/2025

Duplicate Sample Summary

Client:	Roman E&G Corp	SDG No.:	Q3604
Project:	MCUA - New Brunswick	Sample ID:	Q3604-01
Client ID:	S-1DUP	Percent Solids for Spike Sample:	82.8

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Reactive Sulfide	mg/Kg	+/-20	4.78	J	4.78	J	1	0		11/12/2025
Corrosivity	pH	+/-20	7.70		7.72		1	0.26		11/12/2025

Duplicate Sample Summary

Client:	Roman E&G Corp	SDG No.:	Q3604
Project:	MCUA - New Brunswick	Sample ID:	Q3604-02
Client ID:	S-2DUP	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
Ignitability	oC	+/-20	NO		NO		1	0		11/11/2025



RAW DATA

Analytical Summary Report

Analysis Method: 1030
Parameter: Ignitability
Run Number: LB137849

Reviewed By: Eman
Supervisor Review By: Iwona

Seq	LabID	ClientID	DF	matrix	Result Status	Burning Rate	Anal Date	Anal Time
1	Q3563-01	81525-a	1	Solid	NO	0.00	11/11/2025	08:50
2	Q3563-01DUP	81525-aDUP	1	Solid	NO	0.00	11/11/2025	08:57
3	Q3577-01	WC-1A	1	Solid	NO	0.00	11/11/2025	09:04
4	Q3577-04	WC-1A	1	Solid	NO	0.00	11/11/2025	09:11
5	Q3581-01	VNJ-238	1	Solid	NO	0.00	11/11/2025	09:19
6	Q3581-02	VNJ-238	1	Solid	NO	0.00	11/11/2025	09:27
7	Q3581-03	VNJ-245	1	Solid	NO	0.00	11/11/2025	09:34
8	Q3581-04	VNJ-245	1	Solid	NO	0.00	11/11/2025	09:41
9	Q3581-05	VNJ-240	1	Solid	NO	0.00	11/11/2025	09:49
10	Q3581-06	VNJ-240	1	Solid	NO	0.00	11/11/2025	09:57
11	Q3581-07	RBR200059	1	Solid	NO	0.00	11/11/2025	10:04
12	Q3581-08	RBR200059	1	Solid	NO	0.00	11/11/2025	10:11
13	Q3590-01	MOO-25-0314-0316-COM	1	Solid	NO	0.00	11/11/2025	10:18
14	Q3590-03	MOO-25-0317-0318-COM	1	Solid	NO	0.00	11/11/2025	10:25
15	Q3590-05	MOO-25-0319	1	Solid	NO	0.00	11/11/2025	10:33
16	Q3593-04	A-LAW-25-0167-0175-C	1	Solid	NO	0.00	11/11/2025	10:40
17	Q3593-06	B-LAW-25-0167-0175-C	1	Solid	NO	0.00	11/11/2025	10:48
18	Q3593-08	C-LAW-25-0156-0166-C	1	Solid	NO	0.00	11/11/2025	10:55
19	Q3593-10	D-LAW-25-0156-0166-C	1	Solid	NO	0.00	11/11/2025	11:02
20	Q3598-01	EO-CONCRETE	1	Solid	NO	0.00	11/11/2025	11:10
21	Q3598-02	EO-CONCRETE	1	Solid	NO	0.00	11/11/2025	11:18
22	Q3599-01	LIVINGSTON-SOIL	1	Solid	NO	0.00	11/11/2025	11:25
23	Q3599-02	LIVINGSTON-SOIL	1	Solid	NO	0.00	11/11/2025	11:32
24	Q3601-01	TP-1	1	Solid	NO	0.00	11/11/2025	11:40
25	Q3601-04	TP-1	1	Solid	NO	0.00	11/11/2025	11:48
26	Q3601-05	TP-2	1	Solid	NO	0.00	11/11/2025	11:55
27	Q3601-08	TP-2	1	Solid	NO	0.00	11/11/2025	12:02
28	Q3601-09	TP-3	1	Solid	NO	0.00	11/11/2025	12:10
29	Q3601-12	TP-3	1	Solid	NO	0.00	11/11/2025	12:18
30	Q3601-13	TP-4	1	Solid	NO	0.00	11/11/2025	12:25
31	Q3601-16	TP-4	1	Solid	NO	0.00	11/11/2025	12:32
32	Q3601-17	TP-5	1	Solid	NO	0.00	11/11/2025	12:40
33	Q3601-20	TP-5	1	Solid	NO	0.00	11/11/2025	12:48
34	Q3604-01	S-1	1	Solid	NO	0.00	11/11/2025	12:55
35	Q3604-02	S-2	1	Solid	NO	0.00	11/11/2025	13:03
36	Q3604-02DUP	S-2DUP	1	Solid	NO	0.00	11/11/2025	13:11

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

WORKLIST(Hardcopy Internal Chain)

16137849

WorkList Name : IGN-111125 WorkList ID : 193033 Department : Wet-Chemistry Date : 11-11-2025 08:26:08

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3563-01	8-1525-a	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/06/2025	1030
Q3577-01	WC-1A	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3577-04	WC-1A	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3581-01	VNJ-238	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3581-02	VNJ-238	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3581-03	VNJ-245	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3581-04	VNJ-245	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3581-05	VNJ-240	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3581-06	VNJ-240	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3581-07	RBR200059	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3581-08	RBR200059	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3590-01	MOO-25-0314-0316-COMP	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3590-03	MOO-25-0317-0318-COMP	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3590-05	MOO-25-0319	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3593-04	A-LAW-25-0167-0175-COMP	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3593-06	B-LAW-25-0167-0175-COMP	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3593-08	C-LAW-25-0156-0166-COMP	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3593-10	D-LAW-25-0156-0166-COMP	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3598-01	EO-CONCRETE	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/07/2025	1030
Q3598-02	EO-CONCRETE	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030
Q3599-01	LIVINGSTON-STON	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030

Date/Time 11/11/25 08:40
 Raw Sample Received by: EM(WC)
 Raw Sample Relinquished by: EM(WC)

Date/Time 11/11/25 13:25
 Raw Sample Received by: JPL(WC)
 Raw Sample Relinquished by: EM(WC)

WORKLIST(Hardcopy Internal Chain)

16137849

WorkList Name : IGN-111125

WorkList ID : 193033

Department : Wet-Chemistry

Date : 11-11-2025 08:26:08

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3599-02	LIVINGSTON-SOIL	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030
Q3601-01	TP-1	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030
Q3601-04	TP-1	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030
Q3601-05	TP-2	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030
Q3601-08	TP-2	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030
Q3601-09	TP-3	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030
Q3601-12	TP-3	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030
Q3601-13	TP-4	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030
Q3601-16	TP-4	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030
Q3601-17	TP-5	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030
Q3601-20	TP-5	Solid	Ignitability	Cool 4 deg C	PSEG03	D41	11/10/2025	1030
Q3604-01	S-1	Solid	Ignitability	Cool 4 deg C	ROMA02	D41	11/10/2025	1030
Q3604-02	S-2	Solid	Ignitability	Cool 4 deg C	ROMA02	D41	11/10/2025	1030

Date/Time

Raw Sample Received by:

Raw Sample Relinquished by:

11/11/25 08:40
FM(WC)
FM(WC)

Date/Time

Raw Sample Received by:

Raw Sample Relinquished by:

11/11/25 13:25
FM(WC)
FM(WC)

Analysis Method: 9034

Parameter: Reactive Sulfide

Run Number: LB137866

ANALYST: rubina

SUPERVISOR REVIEW BY: Iwona

Constant: 16000

Normality1: 0.025

Normality2: 0.025

Reagent/Standard	Lot/Log #
SODIUM THIOSULFATE, 0.025N, 4LITRE	W3248
IODINE SOLUTION .025N 1L	W3213
Starch Solution, 4L	W3149

Seq	Lab ID	True Value (mg/l)	DF	Initial Weight (g)	Final Volume (ml)	T1 (ml)	T2 Initial	T2 Final	T2 Diff. (ml)	T1 - T2 Diff (mL)	Value Corrected With Blank	Result (ppm)	Anal Date	Anal Time
1	PB170512BL		1	5.00	50	2.00	0.00	1.92	1.92	0.08	0.00	0.00	11/12/2025	09:30
2	Q3577-04		1	5.06	50	2.00	0.00	1.90	1.90	0.10	0.02	1.58	11/12/2025	09:33
3	Q3581-02		1	5.04	50	2.00	0.00	1.86	1.86	0.14	0.06	4.76	11/12/2025	09:35
4	Q3604-01		1	5.02	50	2.00	0.00	1.86	1.86	0.14	0.06	4.78	11/12/2025	09:37
5	Q3604-01DUP		1	5.02	50	2.00	0.00	1.86	1.86	0.14	0.06	4.78	11/12/2025	09:39
6	Q3604-02		1	5.06	50	2.00	0.00	1.88	1.88	0.12	0.04	3.16	11/12/2025	09:42

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

LB137874

Test results

Aquakem 7.2AQ1

Page:

Alliance Technical Group

284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : RM

Instrument ID : Konelab

11/12/2025 16:33

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	94.700	0.0	0.084	
ICB1	0.658	0.0	0.001	
CCV1	241.070	0.0	0.212	
CCB1	0.123	0.0	0.001	
PB170520BL	0.159	0.0	0.001	
Q3598-02	-0.096	0.0	0.001	
Q3598-02DUP	0.307	0.0	0.001	
Q3599-02	0.495	0.0	0.001	
Q3601-04	1.021	0.0	0.002	
Q3601-08	0.409	0.0	0.001	
Q3601-12	0.287	0.0	0.001	
Q3601-16	0.124	0.0	0.001	
Q3601-20	0.058	0.0	0.001	
Q3604-01	0.260	0.0	0.001	
CCV2	235.964	0.0	0.208	
CCB2	0.562	0.0	0.001	
Q3604-02	0.385	0.0	0.001	
Q3609-03	0.497	0.0	0.001	
Q3609-06	0.500	0.0	0.001	
Q3609-09	0.939	0.0	0.002	
Q3609-12	0.415	0.0	0.001	
Q3609-15	0.152	0.0	0.001	
CCV3	245.485	0.0	0.216	
CCB	0.318	0.0	0.001	

N 24
Mean 34.366
SD 82.0085
CV% 238.63

Aquakem v. 7.2AQ1

Results from time period:

Wed Nov 12 16:07:41 2025

Wed Nov 12 16:29:06 2025

Sample Id	Sam/Ctr/c/	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPBCN	A	Total CN	P	0.6184	µg/l	11/12/2025 14:30:26	
5.0PPBCN	A	Total CN	P	4.0057	µg/l	11/12/2025 14:30:27	
10PPBCN	A	Total CN	P	10.1814	µg/l	11/12/2025 14:30:28	
50PPBCN	A	Total CN	P	49.3786	µg/l	11/12/2025 14:30:29	
100PPBCN	A	Total CN	P	99.442	µg/l	11/12/2025 14:30:30	
250PPBCN	A	Total CN	P	252.3879	µg/l	11/12/2025 14:30:31	
500PPBCN	A	Total CN	P	498.9861	µg/l	11/12/2025 14:30:32	
ICV1	S	Total CN	P	94.7003	µg/l	11/12/2025 16:07:42	
ICB1	S	Total CN	P	0.6577	µg/l	11/12/2025 16:07:44	
CCV1	S	Total CN	P	241.0704	µg/l	11/12/2025 16:07:46	
CCB1	S	Total CN	P	0.123	µg/l	11/12/2025 16:07:48	
PB170520BL	S	Total CN	P	0.1592	µg/l	11/12/2025 16:07:49	
Q3598-02	S	Total CN	P	-0.0961	µg/l	11/12/2025 16:07:51	
Q3598-02DUP	S	Total CN	P	0.3068	µg/l	11/12/2025 16:15:15	
Q3599-02	S	Total CN	P	0.4947	µg/l	11/12/2025 16:15:16	
Q3601-04	S	Total CN	P	1.021	µg/l	11/12/2025 16:15:17	
Q3601-08	S	Total CN	P	0.4088	µg/l	11/12/2025 16:15:18	
Q3601-12	S	Total CN	P	0.2875	µg/l	11/12/2025 16:15:19	
Q3601-16	S	Total CN	P	0.1242	µg/l	11/12/2025 16:15:20	
Q3601-20	S	Total CN	P	0.0575	µg/l	11/12/2025 16:15:21	
Q3604-01	S	Total CN	P	0.2596	µg/l	11/12/2025 16:15:22	
CCV2	S	Total CN	P	235.9638	µg/l	11/12/2025 16:22:51	
CCB2	S	Total CN	P	0.5621	µg/l	11/12/2025 16:22:53	
Q3604-02	S	Total CN	P	0.3849	µg/l	11/12/2025 16:22:54	
Q3609-03	S	Total CN	P	0.4966	µg/l	11/12/2025 16:22:55	
Q3609-06	S	Total CN	P	0.4998	µg/l	11/12/2025 16:22:56	
Q3609-09	S	Total CN	P	0.9387	µg/l	11/12/2025 16:22:57	
Q3609-12	S	Total CN	P	0.4152	µg/l	11/12/2025 16:22:58	
Q3609-15	S	Total CN	P	0.1517	µg/l	11/12/2025 16:28:59	
CCV3	S	Total CN	P	245.4847	µg/l	11/12/2025 16:29:04	
CCB3	S	Total CN	P	0.3181	µg/l	11/12/2025 16:29:06	

Calibration results

Aquakem 7.2AQ1

Page:

Alliance Technical Group

284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : RM

Instrument ID : Konelab

11/12/2025 14:30

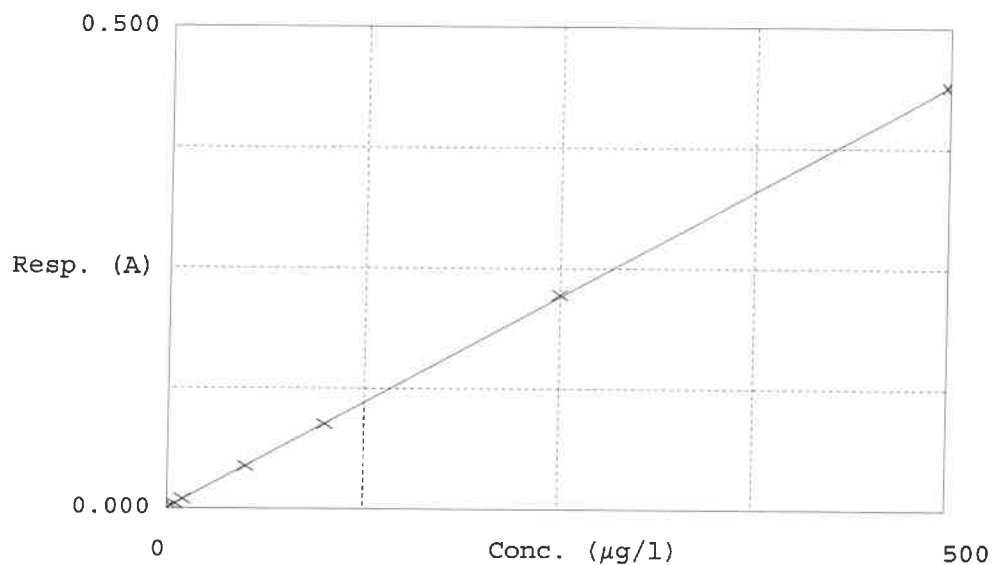
Test Total CN

Accepted 11/12/2025 14:30

Factor 1139
Bias 0.001

Coeff. of det. 0.999957

Errors



	Calibrator	Response	Calc. con.	Conc.	Re Errors
1	0.0PPBCN	0.001	0.6184	0.0000	-
2	5.0PPBCN	0.004	4.0057	5.0000	-19.9
3	10PPBCN	0.010	10.1814	10.0000	1.0
4	50PPBCN	0.044	49.3786	50.0000	-1.2
5	100PPBCN	0.088	99.4420	100.0000	-0.6
6	250PPBCN	0.222	252.3879	250.0000	1.6
7	500PPBCN	0.439	498.9861	500.0000	-0.2

11/12/2025
RM

Analytical Summary Report

Analysis Method: 9045D

Analyst By : jignesh

Parameter: Corrosivity

Supervisor Review By : Iwona

Run Number: LB137876

Slope : 99.2

BalanceID: WC SC-7

pH Meter ID : WC PH METER-1

Calibration Standards	Chemtech Log#
PH 4 BUFFER SOLUTION	W3178
BUFFER PH 7.00 GREEN 1PINT PK6	W3093
PH 10.01 BUFFER, COLOR CD 475ML	W3191
buffer solution pH 7 yellow	W3217
Buffer Solution, PH2 (500ml)	W3161
pH 12.00 Buffer	W3200

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

True Value of CCV1 = 2.00 Control Limits[+/- 0.05].

True Value of CCV2 = 12.00 Control Limits[+/- 0.05].

Seq	LabID	DF	Matrix	Weight (gm)	Volume (ml)	Temperature (°C)	Result (pH)	Anal Date	Anal Time
1	CAL1	1	Water	NA	NA	20.3	4.01	11/12/2025	14:00
2	CAL2	1	Water	NA	NA	20.2	7.01	11/12/2025	14:02
3	CAL3	1	Water	NA	NA	20.3	10.02	11/12/2025	14:05
4	ICV	1	Water	NA	NA	20.3	7.01	11/12/2025	14:10
5	CCV1	1	Water	NA	NA	20.2	2.01	11/12/2025	14:15
6	Q3604-01	1	Solid	20.02	20	20.6	7.70	11/13/2025	14:25
7	Q3604-01DUP	1	Solid	20.03	20	20.8	7.72	11/12/2025	14:30
8	Q3604-02	1	Solid	20.02	20	20.1	8.66	11/12/2025	14:37
9	Q3609-03	1	Solid	20.03	20	21.0	7.53	11/12/2025	14:45
10	Q3609-06	1	Solid	20.02	20	21.9	6.41	11/12/2025	14:50
11	Q3609-09	1	Solid	20.03	20	21.7	6.35	11/12/2025	15:00
12	Q3609-12	1	Solid	20.04	20	21.2	5.83	11/12/2025	15:05
13	Q3609-15	1	Solid	20.02	20	21.2	5.75	11/12/2025	15:15
14	CCV2	1	Water	NA	NA	20.3	12.02	11/12/2025	15:25

WORKLIST(Hardcopy Internal Chain)

137876

WorkList Name : corrsivity q3609 WorkList ID : 193076 Department : Wet-Chemistry Date : 11-12-2025 13:03:20

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3604-01	S-1	Solid	Corrosivity	Cool 4 deg C	ROMA02	D41	11/10/2025	9045D
Q3604-02	S-2	Solid	Corrosivity	Cool 4 deg C	ROMA02	D41	11/10/2025	9045D
Q3609-03	AU-713-COMP-01	Solid	Corrosivity	Cool 4 deg C	PSEG03	D41	11/11/2025	9045D
Q3609-06	AU-713-COMP-02	Solid	Corrosivity	Cool 4 deg C	PSEG03	D41	11/11/2025	9045D
Q3609-09	AU-713-COMP-03	Solid	Corrosivity	Cool 4 deg C	PSEG03	D41	11/11/2025	9045D
Q3609-12	AU-713-COMP-04	Solid	Corrosivity	Cool 4 deg C	PSEG03	D41	11/11/2025	9045D
Q3609-15	AU-713-COMP-05	Solid	Corrosivity	Cool 4 deg C	PSEG03	D41	11/11/2025	9045D

Date/Time 11-12-25 13:30
 Raw Sample Received by: Se Wei
 Raw Sample Relinquished by: OP

Date/Time 11-12-25 17:40
 Raw Sample Received by: OP
 Raw Sample Relinquished by: Se Wei

SOP ID : M9030B-Sulfide-13

SDG No : N/A

Matrix : SOIL

Pipette ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#2

Block ID : WC-DIST-BLOCK-1

Weigh By : RM

Start Digest Date: 11/11/2025 Time : 16:05 Temp : N/A

End Digest Date: 11/11/2025 Time : 17:35 Temp : N/A

Digestion tube ID : M5595

Block Thermometer ID : N/A

Filter paper ID : N/A

Prep Technician Signature: *RM*

pH Meter ID : N/A

Supervisor Signature: *12*

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

Chemical Used	ML/SAMPLE USED	Lot Number
0.5M ZINC ACETATE	5.0ML	WP114311
FORMALDEHYDE	2.0ML	W3220
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

11/11/2025 RM

N/A

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

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB170512BL	PBS512	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3577-04	WC-1A	5.06	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3581-02	VNJ-238	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3604-01DUP	S-1DUP	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3604-01	S-1	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3604-02	S-2	5.06	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : rsul- soil

WorkList ID : 193069

Department : Distillation

Date : 11-11-2025 15:03:53

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3577-04	WC-1A	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	D41	11/07/2025	9034
Q3581-02	VNJ-238	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	D41	11/07/2025	9034
Q3604-01	S-1	Solid	Reactive Sulfide	Cool 4 deg C	ROMA02	D41	11/10/2025	9034
Q3604-02	S-2	Solid	Reactive Sulfide	Cool 4 deg C	ROMA02	D41	11/10/2025	9034

Date/Time 11/11/2025 15:00
 Raw Sample Received by: RM LWS
 Raw Sample Relinquished by: RM LWS

Date/Time 11/11/2025 16:35
 Raw Sample Received by: ppewer
 Raw Sample Relinquished by: RM LWS

SOP ID : M9012B-Total, Amenable and Reactive Cyanide-21

SDG No : N/A

Start Digest Date: 11/12/2025 Time : 11:00 Temp : N/A

Matrix : SOIL

End Digest Date: 11/12/2025 Time : 12:30 Temp : N/A

Pipette ID : N/A

Balance ID : WC SC-7

Hood ID : HOOD#1

Digestion tube ID : M5595

Block Thermometer ID : N/A

Block ID : MC-1,MC-2

Filter paper ID : N/A

Prep Technician Signature: RM

Weigh By : RM

pH Meter ID : N/A

Supervisor Signature: 12

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

Chemical Used	ML/SAMPLE USED	Lot Number
0.25N NaOH	50.0ML	WP113836
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Comment

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/12/2025 12:45	RM (WC)	RM (WC)
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB170520BL	PBS520	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3598-02DUP	EO-CONCRETEDUP	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3598-02	EO-CONCRETE	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3599-02	LIVINGSTON-SOIL	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3601-04	TP-1	5.06	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3601-08	TP-2	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3601-12	TP-3	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3601-16	TP-4	5.07	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3601-20	TP-5	5.06	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3604-01	S-1	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3604-02	S-2	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3609-03	AU-713-COMP-01	5.05	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3609-06	AU-713-COMP-02	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3609-09	AU-713-COMP-03	5.08	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3609-12	AU-713-COMP-04	5.06	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3609-15	AU-713-COMP-05	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : RCN-11-12

WorkList ID : 193085

Department : Distillation

Date : 11-12-2025 09:07:56

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3598-02	EO-CONCRETE	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/10/2025	9012B
Q3599-02	LIVINGSTON-SOIL	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/10/2025	9012B
Q3601-04	TP-1	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/10/2025	9012B
Q3601-08	TP-2	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/10/2025	9012B
Q3601-12	TP-3	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/10/2025	9012B
Q3601-16	TP-4	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/10/2025	9012B
Q3601-20	TP-5	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/10/2025	9012B
Q3604-01	S-1	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/10/2025	9012B
Q3604-02	S-2	Solid	Reactive Cyanide	Cool 4 deg C	ROMA02	D41	11/10/2025	9012B
Q3609-03	AU-713-COMP-01	Solid	Reactive Cyanide	Cool 4 deg C	ROMA02	D41	11/10/2025	9012B
Q3609-06	AU-713-COMP-02	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/11/2025	9012B
Q3609-09	AU-713-COMP-03	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/11/2025	9012B
Q3609-12	AU-713-COMP-04	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/11/2025	9012B
Q3609-15	AU-713-COMP-05	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/11/2025	9012B

Date/Time 11/12/2025 10:10
Raw Sample Received by: RH 103
Raw Sample Relinquished by: RP/1002

Date/Time 11/12/2025 11:20
Raw Sample Received by: RP/103
Raw Sample Relinquished by: RP/2025

Instrument ID: FLAME

Daily Analysis Runlog For Sequence/QC Batch ID # LB137849

Review By	Eman	Review On	11/11/2025 1:45:56 PM
Supervise By	Iwona	Supervise On	11/11/2025 1:46:56 PM
SubDirectory	LB137849	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	Q3563-01	81525-a	SAM	11/11/25 08:50		Eman	OK
2	Q3563-01DUP	81525-aDUP	DUP	11/11/25 08:57		Eman	OK
3	Q3577-01	WC-1A	SAM	11/11/25 09:04		Eman	OK
4	Q3577-04	WC-1A	SAM	11/11/25 09:11		Eman	OK
5	Q3581-01	VNJ-238	SAM	11/11/25 09:19		Eman	OK
6	Q3581-02	VNJ-238	SAM	11/11/25 09:27		Eman	OK
7	Q3581-03	VNJ-245	SAM	11/11/25 09:34		Eman	OK
8	Q3581-04	VNJ-245	SAM	11/11/25 09:41		Eman	OK
9	Q3581-05	VNJ-240	SAM	11/11/25 09:49		Eman	OK
10	Q3581-06	VNJ-240	SAM	11/11/25 09:57		Eman	OK
11	Q3581-07	RBR200059	SAM	11/11/25 10:04		Eman	OK
12	Q3581-08	RBR200059	SAM	11/11/25 10:11		Eman	OK
13	Q3590-01	MOO-25-0314-0316-C	SAM	11/11/25 10:18		Eman	OK
14	Q3590-03	MOO-25-0317-0318-C	SAM	11/11/25 10:25		Eman	OK
15	Q3590-05	MOO-25-0319	SAM	11/11/25 10:33		Eman	OK
16	Q3593-04	A-LAW-25-0167-0175	SAM	11/11/25 10:40		Eman	OK
17	Q3593-06	B-LAW-25-0167-0175	SAM	11/11/25 10:48		Eman	OK
18	Q3593-08	C-LAW-25-0156-0166	SAM	11/11/25 10:55		Eman	OK

Instrument ID: FLAME

Daily Analysis Runlog For Sequence/QC Batch ID # LB137849

Review By	Eman	Review On	11/11/2025 1:45:56 PM
Supervise By	Iwona	Supervise On	11/11/2025 1:46:56 PM
SubDirectory	LB137849	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		

19	Q3593-10	D-LAW-25-0156-0166	SAM	11/11/25 11:02		Eman	OK
20	Q3598-01	EO-CONCRETE	SAM	11/11/25 11:10		Eman	OK
21	Q3598-02	EO-CONCRETE	SAM	11/11/25 11:18		Eman	OK
22	Q3599-01	LIVINGSTON-SOIL	SAM	11/11/25 11:25		Eman	OK
23	Q3599-02	LIVINGSTON-SOIL	SAM	11/11/25 11:32		Eman	OK
24	Q3601-01	TP-1	SAM	11/11/25 11:40		Eman	OK
25	Q3601-04	TP-1	SAM	11/11/25 11:48		Eman	OK
26	Q3601-05	TP-2	SAM	11/11/25 11:55		Eman	OK
27	Q3601-08	TP-2	SAM	11/11/25 12:02		Eman	OK
28	Q3601-09	TP-3	SAM	11/11/25 12:10		Eman	OK
29	Q3601-12	TP-3	SAM	11/11/25 12:18		Eman	OK
30	Q3601-13	TP-4	SAM	11/11/25 12:25		Eman	OK
31	Q3601-16	TP-4	SAM	11/11/25 12:32		Eman	OK
32	Q3601-17	TP-5	SAM	11/11/25 12:40		Eman	OK
33	Q3601-20	TP-5	SAM	11/11/25 12:48		Eman	OK
34	Q3604-01	S-1	SAM	11/11/25 12:55		Eman	OK
35	Q3604-02	S-2	SAM	11/11/25 13:03		Eman	OK
36	Q3604-02DUP	S-2DUP	DUP	11/11/25 13:11		Eman	OK

Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QC Batch ID # LB137866

Review By	rubina	Review On	11/12/2025 12:18:04 PM
Supervise By	Iwona	Supervise On	11/12/2025 12:19:13 PM
SubDirectory	LB137866	Test	Reactive Sulfide
STD. NAME	STD REF.#		
ICAL Standard	N/A		
ICV Standard	N/A		
CCV Standard	N/A		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	W3248,W3213,W3149		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	PB170512BL	PB170512BL	MB	11/12/25 09:30		rubina	OK
2	Q3577-04	WC-1A	SAM	11/12/25 09:33		rubina	OK
3	Q3581-02	VNJ-238	SAM	11/12/25 09:35		rubina	OK
4	Q3604-01	S-1	SAM	11/12/25 09:37		rubina	OK
5	Q3604-01DUP	S-1DUP	DUP	11/12/25 09:39		rubina	OK
6	Q3604-02	S-2	SAM	11/12/25 09:42		rubina	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB137874

Review By	Iwona	Review On	11/13/2025 1:15:29 PM
Supervise By	Sohil	Supervise On	11/13/2025 1:19:47 PM
SubDirectory	LB137874	Test	Reactive Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP115614,WP115615,WP115616,WP115617,WP115620,WP115621,WP115622		
ICV Standard	WP115623		
CCV Standard	WP115615		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP115157,WP114324,WP115624		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	11/12/25 14:30		rubina	OK
2	5.0PPBCN	5.0PPBCN	CAL2	11/12/25 14:30		rubina	OK
3	10PPBCN	10PPBCN	CAL3	11/12/25 14:30		rubina	OK
4	50PPBCN	50PPBCN	CAL4	11/12/25 14:30		rubina	OK
5	100PPBCN	100PPBCN	CAL5	11/12/25 14:30		rubina	OK
6	250PPBCN	250PPBCN	CAL6	11/12/25 14:30		rubina	OK
7	500PPBCN	500PPBCN	CAL7	11/12/25 14:30		rubina	OK
8	ICV1	ICV1	ICV	11/12/25 16:07		rubina	OK
9	ICB1	ICB1	ICB	11/12/25 16:07		rubina	OK
10	CCV1	CCV1	CCV	11/12/25 16:07		rubina	OK
11	CCB1	CCB1	CCB	11/12/25 16:07		rubina	OK
12	PB170520BL	PB170520BL	MB	11/12/25 16:07		rubina	OK
13	Q3598-02	EO-CONCRETE	SAM	11/12/25 16:07		rubina	OK
14	Q3598-02DUP	EO-CONCRETEDUP	DUP	11/12/25 16:15		rubina	OK
15	Q3599-02	LIVINGSTON-SOIL	SAM	11/12/25 16:15		rubina	OK
16	Q3601-04	TP-1	SAM	11/12/25 16:15		rubina	OK
17	Q3601-08	TP-2	SAM	11/12/25 16:15		rubina	OK
18	Q3601-12	TP-3	SAM	11/12/25 16:15		rubina	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB137874

Review By	Iwona	Review On	11/13/2025 1:15:29 PM
Supervise By	Sohil	Supervise On	11/13/2025 1:19:47 PM
SubDirectory	LB137874	Test	Reactive Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP115614,WP115615,WP115616,WP115617,WP115620,WP115621,WP115622		
ICV Standard	WP115623		
CCV Standard	WP115615		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP115157,WP114324,WP115624		

19	Q3601-16	TP-4	SAM	11/12/25 16:15		rubina	OK
20	Q3601-20	TP-5	SAM	11/12/25 16:15		rubina	OK
21	Q3604-01	S-1	SAM	11/12/25 16:15		rubina	OK
22	CCV2	CCV2	CCV	11/12/25 16:22		rubina	OK
23	CCB2	CCB2	CCB	11/12/25 16:22		rubina	OK
24	Q3604-02	S-2	SAM	11/12/25 16:22		rubina	OK
25	Q3609-03	AU-713-COMP-01	SAM	11/12/25 16:22		rubina	OK
26	Q3609-06	AU-713-COMP-02	SAM	11/12/25 16:22		rubina	OK
27	Q3609-09	AU-713-COMP-03	SAM	11/12/25 16:22		rubina	OK
28	Q3609-12	AU-713-COMP-04	SAM	11/12/25 16:22		rubina	OK
29	Q3609-15	AU-713-COMP-05	SAM	11/12/25 16:28		rubina	OK
30	CCV3	CCV3	CCV	11/12/25 16:29		rubina	OK
31	CCB3	CCB3	CCB	11/12/25 16:29		rubina	OK

Instrument ID: WC PH METER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB137876

Review By	jignesh	Review On	11/13/2025 12:38:31 PM
Supervise By	Iwona	Supervise On	11/13/2025 12:55:20 PM
SubDirectory	LB137876	Test	Corrosivity
STD. NAME	STD REF.#		
ICAL Standard	N/A		
ICV Standard	N/A		
CCV Standard	N/A		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	W3178,W3093,W3191,W3217,W3161,W3200		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	11/12/25 14:00		Jignesh	OK
2	CAL2	CAL2	CAL	11/12/25 14:02		Jignesh	OK
3	CAL3	CAL3	CAL	11/12/25 14:05		Jignesh	OK
4	ICV	ICV	ICV	11/12/25 14:10		Jignesh	OK
5	CCV1	CCV1	CCV	11/12/25 14:15		Jignesh	OK
6	Q3604-01DUP	S-1DUP	DUP	11/12/25 14:30		Jignesh	OK
7	Q3604-02	S-2	SAM	11/12/25 14:37		Jignesh	OK
8	Q3609-03	AU-713-COMP-01	SAM	11/12/25 14:45		Jignesh	OK
9	Q3609-06	AU-713-COMP-02	SAM	11/12/25 14:50		Jignesh	OK
10	Q3609-09	AU-713-COMP-03	SAM	11/12/25 15:00		Jignesh	OK
11	Q3609-12	AU-713-COMP-04	SAM	11/12/25 15:05		Jignesh	OK
12	Q3609-15	AU-713-COMP-05	SAM	11/12/25 15:15		Jignesh	OK
13	CCV2	CCV2	CCV	11/12/25 15:25		Jignesh	OK
14	Q3604-01	S-1	SAM	11/13/25 14:25		Jignesh	OK

Prep Standard - Chemical Standard Summary

Order ID : Q3604

Test : Corrosivity,Ignitability,Percent Solids,Reactive Cyanide,Reactive Sulfide

Prepbatch ID : PB170512,PB170520,

Sequence ID/Qc Batch ID: LB137849,LB137866,LB137874,LB137876,

Standard ID :

WP113836,WP113838,WP114311,WP114324,WP115157,WP115613,WP115614,WP115615,WP115616,WP115617,WP115620,WP115621,WP115622,WP115623,WP115624,

Chemical ID :

M6151,W2668,W2926,W3019,W3093,W3112,W3113,W3139,W3149,W3161,W3178,W3191,W3200,W3203,W3213,W3214,W3217,W3220,W3224,W3248,



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
11	Sodium hydroxide absorbing solution 0.25 N	WP113836	07/08/2025	12/31/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCS-7)	None	Iwona Zarych 07/08/2025
FROM 21.00000L of W3112 + 210.00000gram of W3113 = Final Quantity: 21.000 L								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3371	Cyanide LCS Spike Solution, 5PPM	WP113838	07/08/2025	12/24/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
(WC) <u>FROM</u> 1.00000ml of W3224 + 199.00000ml of WP113836 = Final Quantity: 200.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
160	0.5M ZINC ACETATE	WP114311	08/19/2025	02/17/2026	Rubina Mughal	WETCHEM_SCALE_8 (WC)	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 08/19/2025
<u>FROM</u> 0.88900L of W3112 + 1.00000ml of M6151 + 110.00000gram of W2926 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
607	PYRIDINE-BARBITURIC ACID	WP114324	08/19/2025	02/17/2026	Rubina Mughal	WETCHEM_SCALE_5 (WCS-5)	Glass Pipette-A	Jignesh Parikh 08/19/2025
<u>FROM</u>	145.00000ml of W3112 + 15.00000gram of W3203 + 15.00000ml of M6151 + 75.00000ml of W3019 = Final Quantity: 250.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
539	CN BUFFER	WP115157	10/10/2025	12/03/2025	Rubina Mughal	WETCHEM_S CALE_8 (WC SC-7)	None	Iwona Zarych 10/14/2025
<u>FROM</u> 138.00000gram of W2668 + 862.00000ml of W3112 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3456	Cyanide Intermediate Working Std, 5PPM	WP115613	11/12/2025	11/13/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Jignesh Parikh
(WC) FROM 0.25000ml of W3214 + 49.75000ml of WP113836 = Final Quantity: 50.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4	Calibration standard 500 ppb	WP115614	11/12/2025	11/13/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/13/2025
<u>FROM</u>	45.00000ml of WP113836 + 5.00000ml of WP115613 = Final Quantity: 50.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3761	Calibration-CCV CN Standard 250 ppb	WP115615	11/12/2025	11/13/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/13/2025
FROM 2.50000ml of WP115613 + 47.50000ml of WP113836 = Final Quantity: 50.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
6	Calibration Standard 100 ppb	WP115616	11/12/2025	11/13/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Jignesh Parikh
(WC) FROM 1.00000ml of WP115613 + 49.00000ml of WP113836 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
7	Calibration Standard 50 ppb	WP115617	11/12/2025	11/13/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/13/2025
<u>FROM</u> 0.50000ml of WP115613 + 49.50000ml of WP113836 = Final Quantity: 50.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
8	Calibration Standard 10 ppb	WP115620	11/12/2025	11/13/2025	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh 11/13/2025
FROM 1.00000ml of WP115614 + 49.00000ml of WP113836 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
9	Calibration Standard 5 ppb	WP115621	11/12/2025	11/13/2025	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh 11/13/2025
FROM 0.50000ml of WP115614 + 49.50000ml of WP113836 = Final Quantity: 50.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
167	0 ppb CN calibration std	WP115622	11/12/2025	11/13/2025	Rubina Mughal	None	None	Jignesh Parikh
								11/13/2025

FROM 50.00000ml of WP113836 = Final Quantity: 50.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2168	RCN ICV STD, 100 PPB	WP115623	11/12/2025	11/13/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3	Jignesh Parikh
							(WC)	11/13/2025

FROM 1.00000ml of WP113838 + 49.00000ml of WP113836 = Final Quantity: 50.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1582	Chloramine T solution, 0.014M	WP115624	11/12/2025	11/13/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCS-5)	Glass Pipette-A	Jignesh Parikh
<u>FROM</u>	0.08000gram of W3139 + 20.00000ml of W3112 = Final Quantity: 20.000 ml							

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	02/17/2026	02/18/2025 / Sagar	01/15/2025 / Sagar	M6151

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3818-5 / SODIUM PHOSPHATE, MONOBAS/HYD, CRYST, ACS, 2.5 KG	0000225799	12/03/2025	04/05/2021 / Alexander	02/10/2020 / apatel	W2668

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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.	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.	AL13850-1 / Buffer Solution, PH2 (500ml)	2411E26	10/31/2026	12/09/2024 / Iwona	12/09/2024 / Iwona	W3161

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	2411A93	10/30/2026	04/01/2025 / JIGNESH	01/27/2025 / jignesh	W3178

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	2410F80	03/31/2026	04/01/2025 / JIGNESH	03/13/2025 / jignesh	W3191

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
RICCA CHEMICAL COMPANY	1615-16 / pH 12.00 Buffer	2504F20	09/30/2026	04/11/2025 / lwona	04/11/2025 / lwona	W3200

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	WXBF3271V	05/16/2029	04/21/2025 / lwona	04/21/2025 / lwona	W3203

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	MK25A21527	01/20/2029	05/21/2025 / lwona	05/21/2025 / lwona	W3213

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	1505H73	11/30/2025	05/21/2025 / lwona	05/21/2025 / lwona	W3214

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	2504D34	03/31/2027	07/02/2025 / jignesh	06/26/2025 / lwona	W3217

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	MKCW7614	12/31/2026	06/26/2025 / lwona	06/26/2025 / lwona	W3220

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	LC135457 / Cyanide Standard, 1000 PPM, Second Source	45060288	12/24/2025	07/07/2025 / lwona	07/07/2025 / lwona	W3224

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL69870-8 / SODIUM THIOSULFATE,0.025N,4LIT RE	250904J	02/28/2027	10/03/2025 / lwona	10/03/2025 / lwona	W3248

W3019
rec 4/3/23

3050 Spruce Street, Saint Louis, MO 63103, USA

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

Certificate of Analysis

Product Name:

Pyridine - anhydrous, 99.8%

Product Number:

270970

Batch Number:

SHBQ2113

Brand:

SIAL

CAS Number:

110-86-1

MDL Number:

MFCD00011732

Formula:

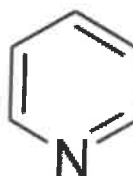
C₅H₅N

Formula Weight:

79.10 g/mol

Quality Release Date:

15 DEC 2022



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


Larry Coers, Director
Quality Control
Sheboygan Falls, WI US

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



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

 **avantor™**



M6151

R → 11/15/25

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

Certificate of Analysis

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

>>> Continued on page 2 >>>

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

 **avantorsm**



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

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

>>> Continued on page 3 >>>

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



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

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

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

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

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

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

(sodium dihydrogen phosphate, monohydrate)



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

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

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

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

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


Jamie Ethier
Vice President Global Quality

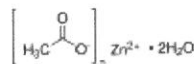
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Certificate of Analysis

Product Name:

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

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



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

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


Larry Coers, Director
Quality Control
Milwaukee, WI US

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



**RICCA CHEMICAL COMPANY®**

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Batesville, IN 47006

<http://www.riccachemical.com>

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customerservice@riccachemical.com

Certificate of Analysis

W3093
094121
04/03/2024
16

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

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

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

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

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

Test	Specification	Result
Appearance	Yellow liquid	Passed

*Not a certified value.

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

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

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

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

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



Paul Brandon (01/08/2024)

Production Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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



Certificate of Analysis



Sodium Hydroxide (Pellets)

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

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

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

Storage: Room Temperature

Pellets

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

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

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

Additional Information

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

Product meets analytical specifications of the grades listed.



Sodium Hydroxide (Pellets)

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

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

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

Storage: Room Temperature

Pellets

Spec Set: 0583ACS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

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

Additional Information

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

Product meets analytical specifications of the grades listed.

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

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



Certificate of Analysis

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

Lot Number: 4408P62

Product Number: 8000

Manufacture Date: AUG 28, 2024

Expiration Date: AUG 2026

This product is Mercury-free.

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

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

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

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

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

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

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

Paul Brandon (08/28/2024)
Production Manager

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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

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

Certificate of Analysis

231758 58

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

Lot Number: 2411A93

Product Number: 1501

Manufacture Date: NOV 04, 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	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)	4.008	0.02	185i, 186-I-g, 186-II-g

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

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)
1501-16	500 mL natural poly	24 months
1501-2.5	10 L Cubitainer®	24 months
1501-5	20 L Cubitainer®	24 months

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



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Certificate of Analysis

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

Lot Number: 2410F80

Product Number: 1601

Manufacture Date: OCT 09, 2024

Expiration Date: MAR 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	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

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	10.009	0.02	186-I-g, 186-II-g, 191d

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

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)
1601-1	4 L natural poly	18 months
1601-16	500 mL natural poly	18 months
1601-1CT	4 L Cubitainer®	18 months
1601-2.5	10 L Cubitainer®	18 months
1601-32	1 L natural poly	18 months
1601-5	20 L Cubitainer®	18 months

Version: 1.3

Lot Number: 2410F80

Product Number: 1601

Page 1 of 2



Certificate of Analysis

Buffer, Reference Standard, pH 12.00 ± 0.01 at 25°C**Lot Number:** 2504F20**Product Number:** 1615**Manufacture Date:** APR 08, 2025**Expiration Date:** SEP 2026

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 (from 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)	12.009	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
1615-5	20 L Cubitainer®	18 months

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



Jose Pena (04/08/2025)
Operations Manager

This product was tested in an ISO 17025 Accredited Laboratory

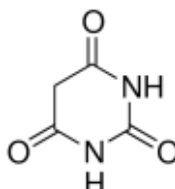
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Certificate of Analysis

Product Name:

Barbituric acid - ReagentPlus®, 99%

Product Number: 185698
Batch Number: WXBFB3271V
Brand: SIAL
CAS Number: 67-52-7
Formula: C₄H₄N₂O₃
Formula Weight: 128,09 g/mol
Quality Release Date: 16 MAY 2024



Test	Specification	Result
Appearance (Colour)	White to Off-White	White
Appearance (Form)	Powder	Powder
Infrared spectrum	Conforms to Structure	Conforms
Purity (Titration by NaOH)	98.5 - 101.5 %	100.4 %
GC (area %)	≥ 98 %	100 %
VPCT		



Kang Chen
Quality Manager
Wuxi, China CN

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





Material	BDHVBDH7206-1
Material Description	IODINE SOLUTION 0.025N
Lot	25A2461008
Expires end of	2029-Jan-20
Molecular mass	0
Last Quality Control	2025-Jan-24
Date of manufacture	2025-Jan-21
Made in	United States
Manufacturer Source Batch	MK25A21527

Additional information

Characteristics	Specifications	Measured values
Prepared to formulation on file	Confirmed	Confirmed
Appearance	Passes Test	Passes Test
Normality, N	0.0200 - 0.0300	0.0268

Signature

We certify that this batch conforms to the specifications listed above.

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

Michelle Bales - Sr. Manager Quality Assurance
 Avantor Performance Materials, LLC

For Professional use in Laboratory or Manufacturing. Not for use as an Active Pharmaceutical Ingredient or Food or Animal Feed. Suitability and intended use of the product remains the responsibility of the user.

VWR International LLC, Radnor Corporate Center, Building One, Suite 200, 100 Matsonford Road, Radnor, PA 19087, USA.

VWR International bv, Haasrode Research Park Zone 2020, Geldenaaksebaan 464, 3001 Leuven, Belgium

BDHVBDH72 25A2461008 Page 1 / 1

Certificate of Analysis

Cyanide Standard, 1000 ppm CN⁻

Lot Number: 1505H73

Product Number: 2543

Manufacture Date: MAY 08, 2025

Expiration Date: NOV 2025

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

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

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

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)



Ernest Mahan (05/08/2025)
Plant Manager

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

Certificate of Analysis

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

Lot Number: 2504D34

Product Number: 1551

Manufacture Date: APR 03, 2025

Expiration Date: MAR 2027

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 (from ACS)

Test	Specification	Result
Appearance	Yellow liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	7.003	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 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)
1551-2.5	10 L Cubitainer®	24 months
1551-20	20 x 20 mL pack	24 months
1551-32	1 L natural poly	24 months
1551-5	20 L Cubitainer®	24 months

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



Jose Pena (04/03/2025)
Operations Manager

This product was tested in an ISO 17025 Accredited Laboratory

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Certificate of Analysis

Product Name:

Formaldehyde solution - ACS reagent, 37 wt. % in H₂O, contains 10-15% Methanol as stabilizer (to prevent polymerization)

Product Number: 252549

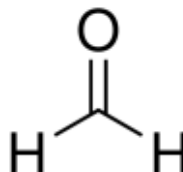
Batch Number: MKCW7614

Brand: SIAL

MDL Number: MFCD00003274

Quality Release Date: 05 DEC 2024

Recommended Retest Date: DEC 2026



Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
Infrared Spectrum	Conforms to Structure	Conforms
Titration by H ₂ SO ₄	36.5 - 38.0 %	36.6 %
Residue on ignition (Ash)	≤ 0.005 %	0.004 %
Color Test	≤ 10 APHA	5 APHA
Chloride (Cl)	≤ 5 ppm	< 5 ppm
Iron (Fe)	≤ 5 ppm	< 1 ppm
Heavy Metals	≤ 5 ppm	2 ppm
by ICP-OES		
Sulfate (SO ₄)	< = 0.002%	< = 0.002%
Titrateable Acid (meq/g)	≤ 0.006	< 0.006
Note	Confirmed	Conforms
Stabilized with 10% to 15% Methanol		
Meets ACS Requirements	Current ACS Specification	Conforms
Recommended Retest Period	-----	-----
2 Years		

Larry Coers, Director
Quality Control
Milwaukee, WI US

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





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: June 25, 2025

Lot Number: **45060288**

Expiration Date: December 24, 2025

Test	Specification	Result
Appearance (clarity)	clear solution	clear solution
Appearance (color)	colorless	colorless
Concentration (CN)	0.990 - 1.010mg/mL	1.000mg/mL
Concentration (CN)	990 - 1,010ppm	1,000ppm
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

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 org	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
20250703 15:30:45ahoffman-0-0

ISO9001:2015 Registration #0306-01

Certificate of Analysis

Sodium Thiosulfate, 0.0250 Normal (N/40)

Lot Number: 250904J

Product Number: 7900

Manufacture Date: SEP 03, 2025

Expiration Date: FEB 2027

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
Organic Preservative	Proprietary	
Sodium Carbonate	497-19-8	ACS
Sodium Thiosulfate Pentahydrate	10102-17-7	ACS

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

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

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

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

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



Jose Pena (09/03/2025)
Operations Manager

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PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 11/12/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 16:40
In Date: 11/11/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 104
Time OUT: 08:05
Out Date: 11/12/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID-OVEN

QC:LB137855

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
Q3604-01	S-1	1	1.15	10.36	11.51	9.73	82.8	
Q3604-02	S-2	2	1.13	10.26	11.39	9.62	82.7	
Q3606-01	DELUMPER FEED	3	1.14	11.46	12.6	3.16	17.6	

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

WORKLIST(Hardcopy Internal Chain)

137855

WorkList Name : %1-111125

WorkList ID : 193035

Department : Wet-Chemistry

Date : 11-11-2025 08:47:18

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3604-01	S-1	Solid	Percent Solids	Cool 4 deg C	ROMA02	D41	11/10/2025	Chemtech -SO
Q3604-02	S-2	Solid	Percent Solids	Cool 4 deg C	ROMA02	D41	11/10/2025	Chemtech -SO
Q3606-01	DELUMPER FEED	Solid	Percent Solids	Cool 4 deg C	ALSE01	D31	10/31/2025	Chemtech -SO

Date/Time 11-11-25 15:00

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: RS C (Est-Web)

Date/Time

11-11-25

Raw Sample Received by:

RS C (Est-Web)

Raw Sample Relinquished by:

[Signature]



SHIPPING DOCUMENTS

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Roman EIC
ADDRESS: 14 OGDEN ST
CITY: NEWARK STATE: NJ ZIP: 07104
ATTENTION: AMANDA Gentle
PHONE: 973-634 8218 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: New Brunswick LSRP
PROJECT NO.: 25-717 LOCATION: New Brunswick
PROJECT MANAGER: Amanda Gentle
e-mail: Engineer@Romaneg.com
PHONE: 973-634-8218 FAX:

CLIENT BILLING INFORMATION

BILL TO: Roman EIC PO#: 25-717
ADDRESS: 14 OGDEN ST
CITY: NEWARK STATE: NJ ZIP: 07104
ATTENTION: Frank Hotaling PHONE: 973-482-1123

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): _____ DAYS*
EDD: ASAP DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

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

1. 2. 3. 4. 5. 6. 7. 8. 9.

PRESERVATIVES

COMMENTS

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES										← Specify Preservatives A-HCl D-NaOH B-HNO3 E-ICE C-H2SO4 F-OTHER
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9	
1. S-1	NB LSRP Stockpile	S			11/10	2:40 PM	3										
2. S-2	NB LSRP Stockpile	S			11/10	2:45 PM	3										
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

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

RELINQUISHED BY SAMPLER: 1. <u>Karen Amode</u>	DATE/TIME: <u>11/10/25</u>	RECEIVED BY: <u>[Signature]</u> <u>1618</u> <u>11-10-25</u>	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP <u>15.76 °C NO ICE</u> Comments: <u>SAMPLER FROM Stock Pile at 19 Home Newark</u> <u>taken AT Sfr Deep / Field sample As per</u> <u>Sketch Attached</u>
RELINQUISHED BY SAMPLER: 2.	DATE/TIME: <u>2:40</u>	RECEIVED BY: 2.	
RELINQUISHED BY SAMPLER: 3.	DATE/TIME:	RECEIVED BY: 3.	

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

Laboratory Certification

Certified By	License No.
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255425
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	TX-C25-00189
Virginia	460312