

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:	Q3662	OrderDate:	11/18/2025 11:14:00 AM
Client:	HDR, Inc.	Project:	PVWC Linear Construction
Contact:	Andrew Wadden	Location:	D41,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q3662-02	B3-0.0-1.0-20251117	SOIL			11/17/25 09:30			11/18/25
			Cyanide	9012B		11/19/25	11/19/25 10:44	
Q3662-04	B1-0.0-1.0-20251117	SOIL			11/17/25 11:05			11/18/25
			Cyanide	9012B		11/19/25	11/19/25 11:46	
			Hexavalent Chromium	7196A		11/19/25	11/19/25 13:22	
			Paint Filter	9095B			11/19/25 08:45	
Q3662-05	B1-0.0-1.0-20251117	SOIL			11/17/25 11:05			11/18/25
			Corrosivity	9045D			11/20/25 08:30	
			Ignitability	1030			11/19/25 09:35	
			Reactive Cyanide	9012B		11/20/25	11/20/25 15:09	
			Reactive Sulfide	9034		11/20/25	11/20/25 16:23	



SAMPLE DATA

Report of Analysis

Client: HDR, Inc.
Project: PVWC Linear Construction
Client Sample ID: B3-0.0-1.0-20251117
Lab Sample ID: Q3662-02

Date Collected: 11/17/25 09:30
Date Received: 11/18/25
SDG No.: Q3662
Matrix: SOIL
% Solid: 84.7

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Cyanide	0.15	J	1	0.048	0.28	mg/Kg	11/19/25 08:20	11/19/25 10:44	9012B

Comments: _____

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N = Spiked sample recovery not within control limits

Report of Analysis

Client: HDR, Inc.
Project: PVWC Linear Construction
Client Sample ID: B1-0.0-1.0-20251117
Lab Sample ID: Q3662-04

Date Collected: 11/17/25 11:05
Date Received: 11/18/25
SDG No.: Q3662
Matrix: SOIL
% Solid: 88.1

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Cyanide	0.15	J	1	0.047	0.28	mg/Kg	11/19/25 08:20	11/19/25 11:46	9012B
Hexavalent Chromium	0.63		1	0.079	0.45	mg/Kg	11/19/25 09:00	11/19/25 13:22	7196A
Paint Filter	1.00	U	1	1.00	1.00	ml/100gm		11/19/25 08:45	9095B

Comments: _____

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N = Spiked sample recovery not within control limits

Report of Analysis

Client: HDR, Inc.
Project: PVWC Linear Construction
Client Sample ID: B1-0.0-1.0-20251117
Lab Sample ID: Q3662-05

Date Collected: 11/17/25 11:05
Date Received: 11/18/25
SDG No.: Q3662
Matrix: SOIL
% Solid: 100

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity	6.08	H	1	0	0	pH		11/20/25 08:30	9045D
Ignitability	NO		1	0	0	oC		11/19/25 09:35	1030
Reactive Cyanide	0.0083	U	1	0.0083	0.049	mg/Kg	11/20/25 12:15	11/20/25 15:09	9012B
Reactive Sulfide	3.18	J	1	0.20	10.0	mg/Kg	11/20/25 12:00	11/20/25 16:23	9034

Comments: pH result reported at temperature 20.8 °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,
Fax : 908 789 8922

Initial and Continuing Calibration Verification

Client: HDR, Inc.

SDG No.: Q3662

Project: PVWC Linear Construction

RunNo.: LB137963

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Hexavalent Chromium	mg/L	0.492	0.5	98	90-110	11/19/2025
Sample ID: CCV1 Hexavalent Chromium	mg/L	0.491	0.5	98	90-110	11/19/2025
Sample ID: CCV2 Hexavalent Chromium	mg/L	0.491	0.5	98	90-110	11/19/2025
Sample ID: CCV3 Hexavalent Chromium	mg/L	0.495	0.5	99	90-110	11/19/2025

Initial and Continuing Calibration Verification

Client: HDR, Inc.

SDG No.: Q3662

Project: PVWC Linear Construction

RunNo.: LB137965

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 Cyanide	mg/L	0.095	0.099	96	90-110	11/19/2025
Sample ID: CCV1 Cyanide	mg/L	0.25	0.25	100	90-110	11/19/2025
Sample ID: CCV2 Cyanide	mg/L	0.24	0.25	96	90-110	11/19/2025
Sample ID: CCV3 Cyanide	mg/L	0.25	0.25	100	90-110	11/19/2025

Initial and Continuing Calibration Verification

Client: HDR, Inc.

SDG No.: Q3662

Project: PVWC Linear Construction

RunNo.: LB137975

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: Corrosivity	ICV	pH	7.00	7	100	90-110	11/20/2025
Sample ID: Corrosivity	CCV1	pH	2.02	2.00	101	90-110	11/20/2025
Sample ID: Corrosivity	CCV2	pH	12.02	12.00	100	90-110	11/20/2025

Initial and Continuing Calibration Verification

Client: HDR, Inc.

SDG No.: Q3662

Project: PVWC Linear Construction

RunNo.: LB137996

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 Reactive Cyanide	mg/L	0.096	0.099	97	85-115	11/20/2025
Sample ID: CCV1 Reactive Cyanide	mg/L	0.24	0.25	96	90-110	11/20/2025
Sample ID: CCV2 Reactive Cyanide	mg/L	0.24	0.25	96	90-110	11/20/2025

Initial and Continuing Calibration Blank Summary

Client: HDR, Inc.

SDG No.: Q3662

Project: PVWC Linear Construction

RunNo.: LB137963

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0029	0.01	11/19/2025
Sample ID: CCB1 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0029	0.01	11/19/2025
Sample ID: CCB2 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0029	0.01	11/19/2025
Sample ID: CCB3 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0029	0.01	11/19/2025

Initial and Continuing Calibration Blank Summary

Client: HDR, Inc.

SDG No.: Q3662

Project: PVWC Linear Construction

RunNo.: LB137965

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	11/19/2025
Sample ID: CCB1 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	11/19/2025
Sample ID: CCB2 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	11/19/2025
Sample ID: CCB3 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	11/19/2025

Initial and Continuing Calibration Blank Summary

Client: HDR, Inc.

SDG No.: Q3662

Project: PVWC Linear Construction

RunNo.: LB137996

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 Reactive Cyanide	mg/L	0.0011	0.0025	J	0.00096	0.005	11/20/2025
Sample ID: CCB1 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	11/20/2025
Sample ID: CCB2 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	11/20/2025

Preparation Blank Summary

Client: HDR, Inc.

SDG No.: Q3662

Project: PVWC Linear Construction

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: PB170592BL Hexavalent Chromium	mg/Kg	< 0.2000	0.2000	U	0.07	0.4	11/19/2025
Sample ID: PB170616BL Cyanide	mg/Kg	< 0.1250	0.1250	U	0.042	0.25	11/19/2025
Sample ID: PB170641BL Reactive Cyanide	mg/Kg	< 0.0250	0.0250	U	0.0084	0.05	11/20/2025
Sample ID: PB170643BL Reactive Sulfide	mg/Kg	< 5.0000	5.0000	U	0.201	10	11/20/2025

Matrix Spike Summary

Client:	HDR, Inc.	SDG No.:	Q3662
Project:	PVWC Linear Construction	Sample ID:	Q3652-01
Client ID:	TP-1MS	Percent Solids for Spike Sample:	86.5

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	75-125	1430		0.080	U	1480	40	97		11/19/2025

Matrix Spike Summary

Client:	HDR, Inc.	SDG No.:	Q3662
Project:	PVWC Linear Construction	Sample ID:	Q3652-01
Client ID:	TP-1MS	Percent Solids for Spike Sample:	86.5

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	85-115	43.5		0.080	U	46.2	2	94		11/19/2025

Matrix Spike Summary

Client:	HDR, Inc.	SDG No.:	Q3662
Project:	PVWC Linear Construction	Sample ID:	Q3652-01
Client ID:	TP-1MS	Percent Solids for Spike Sample:	86.5

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	75-125	39.4		0.080	U	46.2	2	85		11/19/2025

Matrix Spike Summary

Client:	HDR, Inc.	SDG No.:	Q3662
Project:	PVWC Linear Construction	Sample ID:	Q3662-04
Client ID:	B1-0.0-1.0-20251117MS	Percent Solids for Spike Sample:	88.1

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/Kg	75-125	2.00		0.15	J	2.2	1	84		11/19/2025

Matrix Spike Summary

Client:	HDR, Inc.	SDG No.:	Q3662
Project:	PVWC Linear Construction	Sample ID:	Q3662-04
Client ID:	B1-0.0-1.0-20251117MSD	Percent Solids for Spike Sample:	88.1

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/Kg	75-125	2.00		0.15	J	2.2	1	84		11/19/2025

Duplicate Sample Summary

Client:	HDR, Inc.	SDG No.:	Q3662
Project:	PVWC Linear Construction	Sample ID:	Q3652-01
Client ID:	TP-1DUP	Percent Solids for Spike Sample:	86.5

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	+/-20	0.080	U	0.080	U	1	0		11/19/2025

Duplicate Sample Summary

Client: HDR, Inc.	SDG No.: Q3662
Project: PVWC Linear Construction	Sample ID: Q3662-04
Client ID: B1-0.0-1.0-20251117DUP	Percent Solids for Spike Sample: 88.1

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Paint Filter	ml/100gm	+/-20	1.00	U	1.00	U	1	0		11/19/2025
Cyanide	mg/Kg	+/-20	0.15	J	0.15	J	1	0		11/19/2025

Duplicate Sample Summary

Client:	HDR, Inc.	SDG No.:	Q3662
Project:	PVWC Linear Construction	Sample ID:	Q3662-04
Client ID:	B1-0.0-1.0-20251117MSD	Percent Solids for Spike Sample:	88.1

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	2.00		2.00		1	0		11/19/2025

Duplicate Sample Summary

Client: HDR, Inc.	SDG No.: Q3662
Project: PVWC Linear Construction	Sample ID: Q3662-05
Client ID: B1-0.0-1.0-20251117DUP	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		11/19/2025
Corrosivity	pH	+/-20	6.08		6.10		1	0.33		11/20/2025
Reactive Sulfide	mg/Kg	+/-20	3.18	J	3.18	J	1	0		11/20/2025
Reactive Cyanide	mg/Kg	+/-20	0.0083	U	0.0091	J	1	200	*	11/20/2025

Laboratory Control Sample Summary

Client: HDR, Inc.

SDG No.: Q3662

Project: PVWC Linear Construction

Run No.: LB137963

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB170592BS							
Hexavalent Chromium	mg/Kg	20	19.5		98	1	84-110	11/19/2025

Laboratory Control Sample Summary

Client: HDR, Inc.

SDG No.: Q3662

Project: PVWC Linear Construction

Run No.: LB137965

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB170616BS							
Cyanide	mg/Kg	5	4.80		96	1	85-115	11/19/2025



RAW DATA

Analytical Summary Report

Analysis Method: 9095B

Reviewed By: Eman

Parameter: Paint Filter

Supervisor Review By: Iwona

Run Number: LB137960

BalanceID: WC SC-7

Seq	LabID	ClientID	Dilution	Weight(g)	Inst. Conc (ml/100g)	Anal Date	Anal Time
1	Q3662-04	B3-0.0-1.0-20251117	1	100.04	0.00	11/19/2025	08:45
2	Q3662-04DUP	B3-0.0-1.0-20251117	1	100.06	0.00	11/19/2025	08:52
3	Q3664-01	ARS20-0001	1	100.03	0.00	11/19/2025	08:59
4	Q3664-03	ARS20-0013	1	100.07	0.00	11/19/2025	09:07
5	Q3664-05	291399	1	100.02	0.00	11/19/2025	09:15
6	Q3669-01	EO-01-11182025	1	100.05	0.00	11/19/2025	09:22

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PF-111925

WorkList ID : 193206

Department : Wet-Chemistry

Date : 11-19-2025 08:24:31

16137960

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3662-04	B3-0-0-1-0-20251117	Solid	Paint Filter	Cool 4 deg C	HDR108	D41	11/17/2025	9095B
Q3664-01	ARS20-0001	Solid	Paint Filter	Cool 4 deg C	PSEG03	D31	11/18/2025	9095B
Q3664-03	ARS20-0013	Solid	Paint Filter	Cool 4 deg C	PSEG03	D31	11/18/2025	9095B
Q3664-05	291399	Solid	Paint Filter	Cool 4 deg C	PSEG03	D31	11/18/2025	9095B
Q3669-01	EO-01-11182025	Solid	Paint Filter	Cool 4 deg C	PSEG05	D41	11/18/2025	9095B

Date/Time

Raw Sample Received by:

Raw Sample Relinquished by:

11/19/25 08:35
EMLOW
mwa

Date/Time

Raw Sample Received by:

Raw Sample Relinquished by:

11/19/25 10:05
EMLOW
EMLOW

Analytical Summary Report

Analysis Method: 1030
Parameter: Ignitability
Run Number: LB137961

Reviewed By: Eman
Supervisor Review By: Iwona

Seq	LabID	ClientID	DF	matrix	Result Status	Burning Rate	Anal Date	Anal Time
1	Q3662-05	B3-0.0-1.0-20251117	1	Solid	NO	0.00	11/19/2025	09:35
2	Q3662-05DUP	B3-0.0-1.0-20251117	1	Solid	NO	0.00	11/19/2025	09:42
3	Q3666-01	BUR-25-0103	1	Solid	NO	0.00	11/19/2025	09:49

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

WORKLIST(Hardcopy Internal Chain)

16137961

WorkList Name : IGN-111925

WorkList ID : 193207

Department : Wet-Chemistry

Date : 11-19-2025 08:24:39

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3662-05	B3-0-0-1.0-20251117	Solid	Ignitability	Cool 4 deg C	HDR108	D41	11/17/2025	1030
Q3666-01	BUR-25-0103	Solid	Ignitability	Cool 4 deg C	PSEG03	D31	11/18/2025	1030

Date/Time 11/19/25 08:35
Raw Sample Received by: EM(wcy)
Raw Sample Relinquished by: [Signature]

Date/Time 11/19/25 10:05
Raw Sample Received by: [Signature]
Raw Sample Relinquished by: EM(wcy)

Analytical Summary Report

Analysis Method: 7196A

ANALYST: rubina

Parameter: ~~Hexavalent Chromium~~

SUPERVISOR REVIEW BY: Iwona

Run Number: LB137963

pH Meter ID: WC pH Meter-1

Reagent/Standard	Lot/Log #
hexavalent chromium color reagent	WP115688
5N sulfuric acid	WP115340
HNO3 Hex-Chrome, 5M	WP115339
Hexchrome Cleaning Solution	WP114310

Intercept: 0.0003

Slope: 0.7655

Regression: 0.999893

Seq	Lab ID	True Value (mg/l)	DF	Initial Vol (ml)	Final Vol (ml)	pH HNO3	pH H2SO4	Absorb.at 540nm		Absorbance Difference	Result (mg/L)	%D	Anal Date	Anal Time
								Backgrnd	Color					
1	CAL1	0	1	100	100	7.42	1.61	0.000	0.000	0.000	-0.00		11/19/2025	13:10
2	CAL2	0.01	1	100	100	7.40	1.76	0.000	0.009	0.009	0.011	10	11/19/2025	13:10
3	CAL3	0.025	1	100	100	7.53	1.79	0.000	0.020	0.020	0.025	0	11/19/2025	13:11
4	CAL4	0.05	1	100	100	7.50	1.84	0.000	0.040	0.040	0.051	2	11/19/2025	13:11
5	CAL5	0.1	1	100	100	7.45	1.88	0.000	0.079	0.079	0.102	2	11/19/2025	13:12
6	CAL6	0.5	1	100	100	7.42	1.85	0.000	0.374	0.374	0.488	-2.4	11/19/2025	13:12
7	CAL7	1	1	100	100	7.40	1.89	0.000	0.770	0.770	1.005	0.5	11/19/2025	13:13

Analytical Summary Report

Analysis Method: 7196A

ANALYST:rubina

Parameter: Hexavalent Chromium

SUPERVISOR REVIEW BY:Iwona

Run Number: LB137963

pH Meter ID:WC pH Meter-1

Seq	Lab ID	True Value	DF	Initial Vol (ml/gm)	Final Vol (ml)	pH HN03	pH H2SO4	Absorb.at540nm		Absorbance Difference	Intermediate Result (mg/L)	Anal Date	Anal Time
								Backgrnd	Color				
1	ICV	0.5	1	100	100	7.38	1.94	0.000	0.377	0.377	0.492	11/19/2025	13:13
2	ICB		1	100	100	7.45	1.91	0.000	0.001	0.001	0.001	11/19/2025	13:14
3	CCV1	0.5	1	100	100	7.52	1.84	0.000	0.376	0.376	0.491	11/19/2025	13:14
4	CCB1		1	100	100	7.42	1.94	0.000	0.001	0.001	0.001	11/19/2025	13:15
5	RL Check	0.01	1	100	100	7.54	1.85	0.000	0.010	0.010	0.013	11/19/2025	13:15
6	PB170592BL		1	2.50	100	7.51	1.90	0.000	0.000	0.000	0.000	11/19/2025	13:16
7	PB170592BS	20	1	2.50	100	7.55	1.98	0.000	0.374	0.374	0.488	11/19/2025	13:16
8	Q3652-01		1	2.52	100	7.38	1.97	0.000	0.001	0.001	0.001	11/19/2025	13:17
9	Q3652-01DU		1	2.53	100	7.40	2.04	0.000	0.001	0.001	0.001	11/19/2025	13:17
10	Q3652-01MS	40	2	2.53	100	7.41	2.01	0.000	0.330	0.330	0.431	11/19/2025	13:18
11	Q3652-01MS	1284	40	2.55	100	7.45	2.06	0.000	0.604	0.604	0.789	11/19/2025	13:18
12	Q3652-01MS	40	2	2.52	100	7.40	1.99	0.000	0.363	0.363	0.474	11/19/2025	13:19
13	Q3656-01		1	2.51	100	7.52	1.90	0.036	0.036	0.000	0.000	11/19/2025	13:19
14	Q3658-01		1	2.54	100	7.36	2.10	0.021	0.022	0.001	0.001	11/19/2025	13:20
15	Q3659-01		1	2.56	100	7.42	2.02	0.000	0.000	0.000	0.000	11/19/2025	13:20
16	CCV2	0.5	1	100	100	7.48	2.06	0.000	0.376	0.376	0.491	11/19/2025	13:21
17	CCB2		1	100	100	7.54	1.85	0.000	0.001	0.001	0.001	11/19/2025	13:21
18	Q3659-02		1	2.51	100	7.50	1.88	0.000	0.001	0.001	0.001	11/19/2025	13:22
19	Q3662-04		1	2.52	100	7.55	1.92	0.015	0.026	0.011	0.014	11/19/2025	13:22
20	Q3664-01		1	2.54	100	7.61	1.97	0.000	0.001	0.001	0.001	11/19/2025	13:23
21	Q3664-03		1	2.57	100	7.32	1.88	0.000	0.023	0.023	0.030	11/19/2025	13:23
22	Q3664-05		1	2.54	100	7.36	1.99	0.000	0.001	0.001	0.001	11/19/2025	13:24
23	Q3669-01		1	2.58	100	7.42	1.93	0.004	0.005	0.001	0.001	11/19/2025	13:24
24	CCV3	0.5	1	100	100	7.40	1.92	0.000	0.379	0.379	0.495	11/19/2025	13:25
25	CCB3		1	100	100	7.32	1.91	0.000	0.001	0.001	0.001	11/19/2025	13:25

66137

Test results Aquakem 7.2AQ1 Page:

Alliance Technical Group
284 Sheffield Street, Mountainside, NJ 07092

11/19/2025 11:55 Reviewed by : RM Instrument ID : Konelab

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	94.571	0.0	0.084	
ICB1	0.289	0.0	0.001	
CCV1	245.054	0.0	0.216	
CCB1	0.329	0.0	0.001	
PB170616BL	0.496	0.0	0.002	
PB170616BS	95.622	0.0	0.085	
LOWPB170616	9.887	0.0	0.010	
HIGHPB170616	484.953	0.0	0.427	
Q3662-02	2.624	0.0	0.004	
Q3664-01	0.215	0.0	0.001	
Q3664-03	3.897	0.0	0.005	
Q3664-05	0.407	0.0	0.002	
Q3669-01	0.459	0.0	0.002	
CCV2	243.743	0.0	0.215	
CCB2	0.313	0.0	0.001	
Q3662-04	2.655	0.0	0.004	
Q3662-04DUP	2.724	0.0	0.004	
Q3662-04MS	35.698	0.0	0.033	
Q3662-04MSD	35.815	0.0	0.033	
CCV3	251.963	0.0	0.222	
CCB3	0.904	0.0	0.002	

99% (90-110) 11/19/2025
97% (90-110) RM

N 21
Mean 72.030
SD 128.4434
CV% 178.32

Aquakem v. 7.2AQ1

Results from time period:

Wed Nov 19 09:35:53 2025

Wed Nov 19 11:46:47 2025

Sample Id	Sam/Ctr/c/	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.OPPBCN	A	Total CN	P	1.2884	µg/l	11/19/2025 9:35:53	
5.OPPBCN	A	Total CN	P	4.576	µg/l	11/19/2025 9:35:54	
10PPBCN	A	Total CN	P	10.272	µg/l	11/19/2025 9:35:55	
50PPBCN	A	Total CN	P	48.2188	µg/l	11/19/2025 9:35:56	
100PPBCN	A	Total CN	P	99.1796	µg/l	11/19/2025 9:35:57	
250PPBCN	A	Total CN	P	252.2484	µg/l	11/19/2025 9:35:58	
500PPBCN	A	Total CN	P	499.2169	µg/l	11/19/2025 9:35:59	
ICV1	S	Total CN	P	94.5712	µg/l	11/19/2025 10:36:44	
ICB1	S	Total CN	P	0.289	µg/l	11/19/2025 10:36:47	
CCV1	S	Total CN	P	245.0543	µg/l	11/19/2025 10:36:49	
CCB1	S	Total CN	P	0.3289	µg/l	11/19/2025 10:36:51	
PB170616BL	S	Total CN	P	0.496	µg/l	11/19/2025 10:36:53	
PB170616BS	S	Total CN	P	95.6223	µg/l	11/19/2025 10:36:54	
LOWPB170616	S	Total CN	P	9.887	µg/l	11/19/2025 10:44:21	
HIGHPB170616	S	Total CN	P	484.9527	µg/l	11/19/2025 10:44:24	
Q3662-02	S	Total CN	P	2.6239	µg/l	11/19/2025 10:44:26	
Q3664-01	S	Total CN	P	0.2148	µg/l	11/19/2025 10:51:56	
Q3664-03	S	Total CN	P	3.897	µg/l	11/19/2025 10:59:30	
Q3664-05	S	Total CN	P	0.4074	µg/l	11/19/2025 10:59:31	
Q3669-01	S	Total CN	P	0.4595	µg/l	11/19/2025 10:59:32	
CCV2	S	Total CN	P	243.7431	µg/l	11/19/2025 10:59:35	
CCB2	S	Total CN	P	0.3129	µg/l	11/19/2025 11:03:19	
Q3662-04	S	Total CN	P	2.6546	µg/l	11/19/2025 11:46:42	
Q3662-04DUP	S	Total CN	P	2.724	µg/l	11/19/2025 11:46:43	
Q3662-04MS	S	Total CN	P	35.6985	µg/l	11/19/2025 11:46:44	
Q3662-04MSD	S	Total CN	P	35.8153	µg/l	11/19/2025 11:46:45	
CCV3	S	Total CN	P	251.9632	µg/l	11/19/2025 11:46:46	
CCB3	S	Total CN	P	0.904	µg/l	11/19/2025 11:46:47	

=====

Calibration results Aquakem 7.2AQ1 Page: 1

Alliance Technical Group
284 Sheffield Street, Mountainside, NJ 07092

11/19/2025 9:41 Reviewed by : RM Instrument ID : Konelab

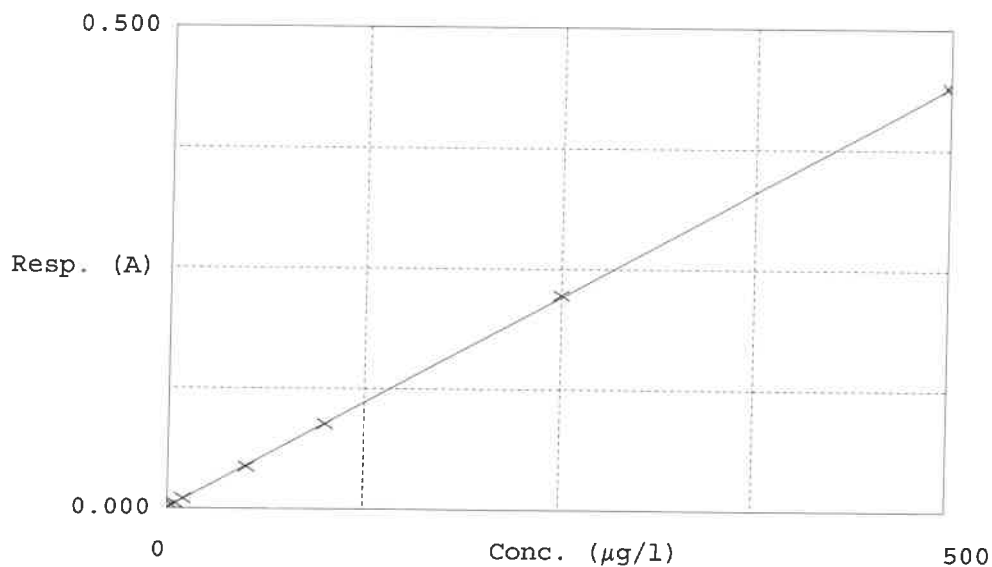
Test Total CN

Accepted 11/19/2025 9:41

Factor 1140
Bias 0.001

Coeff. of det. 0.999944

Errors



	Calibrator	Response	Calc. con.	Conc.	Re Errors
1	0.0PPBCN	0.002	1.2884	0.0000	
2	5.0PPBCN	0.005	4.5760	5.0000	-8.5
3	10PPBCN	0.010	10.2720	10.0000	2.7
4	50PPBCN	0.044	48.2188	50.0000	-3.6
5	100PPBCN	0.088	99.1796	100.0000	
6	250PPBCN	0.223	252.2484	250.0000	-0.8
7	500PPBCN	0.439	499.2169	500.0000	0.9
					-0.2

11/19/2025
RM

Analytical Summary Report

Analysis Method: 9045D

Analyst By : jignesh

Parameter: Corrosivity

Supervisor Review By : Iwona

Run Number: LB137975

Slope : 98.5

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	11/20/2025	08:15
2	CAL2	1	Water	NA	NA	20.2	7.01	11/20/2025	08:16
3	CAL3	1	Water	NA	NA	20.2	10.02	11/20/2025	08:17
4	ICV	1	Water	NA	NA	20.2	7.00	11/20/2025	08:20
5	CCV1	1	Water	NA	NA	20.2	2.02	11/20/2025	08:22
6	Q3662-05	1	Solid	20.02	20	20.8	6.08	11/20/2025	08:30
7	Q3662-05DUP	1	Solid	20.03	20	20.9	6.10	11/20/2025	08:36
8	Q3678-02	1	Solid	20.04	20	21.7	8.90	11/20/2025	08:48
9	CCV2	1	Water	NA	NA	20.3	12.02	11/20/2025	08:50

WORKLIST(Hardcopy Internal Chain)

VF137975

WorkList Name : corrosivity q3678

WorkList ID : 193228

Department : Wet-Chemistry

Date : 11-20-2025 07:56:27

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3662-05	B1-0.0-1.0-20251117	Solid	Corrosivity	Cool 4 deg C	HDR108	D41	11/17/2025	9045D
Q3678-02	COMPOSITE-STONE	Solid	Corrosivity	Cool 4 deg C	PSEG03	D41	11/19/2025	9045D

Date/Time 11-20-25 08:10

Raw Sample Received by: Officer

Raw Sample Relinquished by:

Date/Time

11-20-25

Raw Sample Received by:

Raw Sample Relinquished by:

11:40

Officer

Officer

Analysis Method: 9034

Parameter: Reactive Sulfide

Run Number: LB137993

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	PB170643BL		1	5.00	50	2.00	0.00	1.92	1.92	0.08	0.00	0.00	11/20/2025	16:20
2	Q3662-05		1	5.03	50	2.00	0.00	1.88	1.88	0.12	0.04	3.18	11/20/2025	16:23
3	Q3662-05DUP		1	5.03	50	2.00	0.00	1.88	1.88	0.12	0.04	3.18	11/20/2025	16:26
4	Q3678-02		1	5.06	50	2.00	0.00	1.86	1.86	0.14	0.06	4.74	11/20/2025	16:29

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

LB137996

Test results

Aquakem 7.2AQ1

Page: 1

Alliance Technical Group
284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : JM

Instrument ID : Konelab

11/20/2025 15:33

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	96.013	0.0	0.084	
ICB1	1.148	0.0	0.002	
CCV1	237.334	0.0	0.207	
CCB1	0.912	0.0	0.001	
PB170641BL	0.777	0.0	0.001	
Q3662-05	0.829	0.0	0.001	
Q3662-05DUP	0.920	0.0	0.001	
Q3678-02	0.812	0.0	0.001	
PB170642BL	0.703	0.0	0.001	
Q3682-01	0.914	0.0	0.001	
Q3682-01DUP	0.979	0.0	0.002	
Q3685-03	0.612	0.0	0.001	
CCV2	238.012	0.0	0.208	
CCB2	0.599	0.0	0.001	

N	14
Mean	41.469
SD	86.8813
CV%	209.51

Aquakem v. 7.2AQ1

Results from time period:

Thu Nov 20 15:01:34 2025

Thu Nov 20 15:20:05 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	0.3082	µg/l	11/20/2025 9:29:28	
5.0PPBCN	A	Total CN	P	5.5316	µg/l	11/20/2025 9:29:29	
10PPBCN	A	Total CN	P	10.3958	µg/l	11/20/2025 9:29:30	
50PPBCN	A	Total CN	P	48.6702	µg/l	11/20/2025 9:29:31	
100PPBCN	A	Total CN	P	99.2365	µg/l	11/20/2025 9:29:32	
250PPBCN	A	Total CN	P	251.1706	µg/l	11/20/2025 9:29:33	
500PPBCN	A	Total CN	P	499.6871	µg/l	11/20/2025 9:29:34	
ICV1	S	Total CN	P	96.0129	µg/l	11/20/2025 15:01:35	
ICB1	S	Total CN	P	1.1478	µg/l	11/20/2025 15:01:37	
CCV1	S	Total CN	P	237.3343	µg/l	11/20/2025 15:01:39	
CCB1	S	Total CN	P	0.9119	µg/l	11/20/2025 15:01:41	
PB170641BL	S	Total CN	P	0.7774	µg/l	11/20/2025 15:01:43	
Q3662-05	S	Total CN	P	0.8289	µg/l	11/20/2025 15:09:06	
Q3662-05DUP	S	Total CN	P	0.9202	µg/l	11/20/2025 15:09:08	
Q3678-02	S	Total CN	P	0.8121	µg/l	11/20/2025 15:09:10	
PB170642BL	S	Total CN	P	0.7033	µg/l	11/20/2025 15:09:11	
Q3682-01	S	Total CN	P	0.9143	µg/l	11/20/2025 15:09:13	
Q3682-01DUP	S	Total CN	P	0.9788	µg/l	11/20/2025 15:09:16	
Q3685-03	S	Total CN	P	0.6116	µg/l	11/20/2025 15:16:41	
CCV2	S	Total CN	P	238.0125	µg/l	11/20/2025 15:16:51	
CCB2	S	Total CN	P	0.5986	µg/l	11/20/2025 15:20:05	

Calibration results

Aquakem 7.2AQ1

Page: 1

Alliance Technical Group
284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : RM Instrument ID : Konelab

11/20/2025 9:32

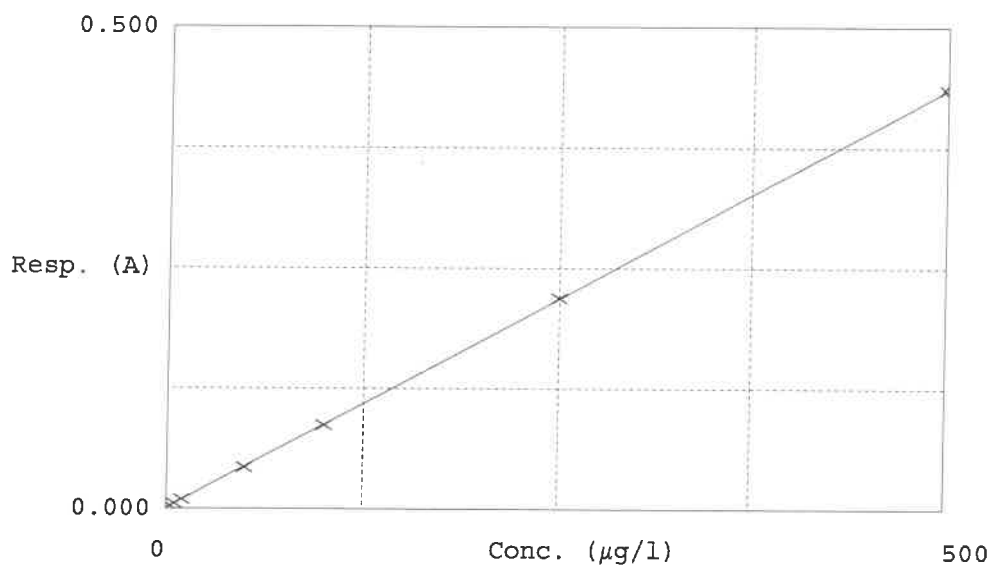
Test Total CN

Accepted 11/20/2025 9:32

Factor 1150
Bias 0.001

Coeff. of det. 0.999979

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	0.0PPBCN	0.001	0.3082	0.0000	-
2	5.0PPBCN	0.005	5.5316	5.0000	10.6
3	10PPBCN	0.010	10.3958	10.0000	4.0
4	50PPBCN	0.043	48.6702	50.0000	-2.7
5	100PPBCN	0.087	99.2365	100.0000	-0.8
6	250PPBCN	0.219	251.1706	250.0000	0.5
7	500PPBCN	0.435	499.6871	500.0000	-0.1

11/20/2025
RM

SOP ID : M3060A,7196A-Hex.Chromium-27

SDG No : N/A

Start Digest Date: 11/19/2025 Time : 09:00 Temp : 90 °C

Matrix : SOIL

End Digest Date: 11/19/2025 Time : 10:00 Temp : 93 °C

Pipette ID : WC

11 batch 11/19/2025 11/19/2025 10:25 11:25 90 °C 95 °C } RM

Balance ID : WC SC-7

Hood ID : HOOD#3

Digestion tube ID : M6054

Block Thermometer ID : WC-Block#1

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

Filter paper ID : 400213

Prep Technician Signature: RM

Weigh By : RM

pH Meter ID : WC pH meter-1

Supervisor Signature: 12

Standard Name	MLS USED	STD REF. # FROM LOG
PRE-DIGESTION SPIKE	2.0ML	WP113880
INSOLUBLE SPIKE	0.02GM	W2202
POST-DIGESTION SPIKE	2.0ML	WP113880
LCSS	1.0ML	WP113881
PBS003	50.ML	W3112

Chemical Used	ML/SAMPLE USED	Lot Number
MAGNESIUM CHLORIDE	0.4GM	W3152
PHOSPHATE BUFFER	5.0ML	WP115410
HEX. DIGESTION SOLN.	50.0ML	WP115338
5M HNO3	5-7ML	WP115339
5N H2SO4	1-3ML	WP115340
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Vol(ml)	Comment
CAL1	CAL1	2.5ML	W3112
CAL2	CAL2	0.2ML	WP115734
CAL3	CAL3	0.5ML	WP115734
CAL4	CAL4	1ML	WP115734
CAL5	CAL5	0.2ML	WP113880
CAL6	CAL6	1ML	WP113880
CAL7	CAL7	2.0ML	WP113880
ICV	ICV	1ML	WP113881
ICB	ICB	2.5ML	W3112
CCV	CCV	1ML	WP113880
CCB	CCB	2.5ML	W3112

Extraction Conformance/Non-Conformance Comments:

N/A

11/19/2025 RM

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

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB170592BL	PBS592	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A
PB170592BS	LCS592	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3652-01DUP	TP-1DUP	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3652-01MSPre	TP-1MSPRE	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3652-01MS2Ins	TP-1MS2INS	2.55	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3652-01MS3Post	TP-1MS3POST	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3652-01	TP-1	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3656-01	T2-GRAVEL	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3658-01	NB-07-111725	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3659-01	TANK-1-COMP-1	2.56	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3659-02	TANK-1-COMP-2	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3662-04	B3-0.0-1.0-20251117	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3664-01	ARS20-0001	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3664-03	ARS20-0013	2.57	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3664-05	291399	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
Q3669-01	EO-01-11182025	2.58	100	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : HEX-11-18*

WorkList ID : 193192

Department : Distillation

Date : 11-18-2025 14:47:29

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3652-01	TP-1	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	D41	11/17/2025	7196A
Q3656-01	T2-GRAVEL	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	D41	11/17/2025	7196A
Q3658-01	NB-07-111725	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG05	D41	11/17/2025	7196A
Q3659-01	TANK-1-COMP-1	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG04	D41	11/17/2025	7196A
Q3659-02	TANK-1-COMP-2	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG04	D41	11/17/2025	7196A
Q3662-04	B3-0-0-1.0-20251117	Solid	Hexavalent Chromium	Cool 4 deg C	HDR108	D41	11/17/2025	7196A
Q3664-01	ARS20-0001	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	D31	11/18/2025	7196A
Q3664-03	ARS20-0013	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	D31	11/18/2025	7196A
Q3664-05	291399	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	D31	11/18/2025	7196A
Q3669-01	EO-01-11182025	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG05	D41	11/18/2025	7196A

Date/Time 11/19/2025 08:15
 Raw Sample Received by: RM (ws)
 Raw Sample Relinquished by: RM (ws)

Date/Time 11/19/2025 11:00
 Raw Sample Received by: JRC (ws)
 Raw Sample Relinquished by: RM (ws)

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

SDG No : N/A

Start Digest Date: 11/19/2025 Time : 08:20 Temp : 123 °C

Matrix : SOIL

End Digest Date: 11/19/2025 Time : 09:50 Temp : 128 °C

Pipette ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#1

Digestion tube ID : M5595

Block Thermometer ID : WC CYANIDE

Block ID : MC-1,MC-2

Filter paper ID : N/A

Prep Technician Signature:

Weigh By : JP

pH Meter ID : N/A

Supervisor Signature:

Standard Name	MLS USED	STD REF. # FROM LOG
LCSS	1.0ML	WP113838
MS/MSD SPIKE SOL.	0.40ML	WP113837
PBS003	50.0ML	W3112
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
0.25N NaOH	50.0ML	WP113836
50% v/v H2SO4	5.0ML	WP115334
51% w/v MgCL2	2.0ML	WP115335
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
S0	S0	N/A	N/A
S5.0	S5.0	N/A	N/A
S10.0	S10.0	N/A	N/A
S100.0	S100.0	N/A	N/A
S250.0	S250.0	N/A	N/A
S500.0	S500.0	N/A	N/A
ICV	ICV	0.5ML	W3012
ICB	ICB	N/A	N/A
CCV	CCV	N/A	N/A
CCB	CCB	N/A	N/A
Midrange	Midrange	N/A	N/A
HIGHSTD	HIGHSTD	5.0ML	WP113837
LOWSTD	LOWSTD	0.1ML	WP113837

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/19/2025 10:05	JP / OOC	RMW
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB170616BL	PBS616	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A
PB170616BS	LCS616	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3662-02	B3-0.0-1.0-20251117	1.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3662-04	B3-0.0-1.0-20251117	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3662-04DUP	B3-0.0-1.0-20251117DUP	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3662-04MS	B3-0.0-1.0-20251117MS	1.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3662-04MSD	B3-0.0-1.0-20251117MSD	1.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3664-01	ARS20-0001	1.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3664-03	ARS20-0013	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3664-05	291399	1.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3669-01	EO-01-11182025	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : CN Q3669 WorkList ID : 193199 Department : Distillation Date : 11-19-2025 07:30:53

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3662-02	B3-0-0-1.0-20251117	Solid	Cyanide	Cool 4 deg C	HDR108	D41	11/17/2025	9012B
Q3662-04	B1-0-0-1.0-20251117	Solid	Cyanide	Cool 4 deg C	HDR108	D41	11/17/2025	9012B
Q3664-01	ARS20-0001	Solid	Cyanide	Cool 4 deg C	PSEG03	D31	11/18/2025	9012B
Q3664-03	ARS20-0013	Solid	Cyanide	Cool 4 deg C	PSEG03	D31	11/18/2025	9012B
Q3664-05	291399	Solid	Cyanide	Cool 4 deg C	PSEG03	D31	11/18/2025	9012B
Q3669-01	EO-01-11182025	Solid	Cyanide	Cool 4 deg C	PSEG05	D41	11/18/2025	9012B

Date/Time 11/19/2025 07:45
 Raw Sample Received by: SP Jm
 Raw Sample Relinquished by: SP Jm

Date/Time 11/19/2025 09:10
 Raw Sample Received by: SP Jm
 Raw Sample Relinquished by: SP Jm

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

SDG No : N/A

Start Digest Date: 11/20/2025 Time : 12:15 Temp : N/A

Matrix : SOIL

End Digest Date: 11/20/2025 Time : 13:45 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

Filter paper ID : N/A

Prep Technician Signature: RH

Welgh By : 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
0.25N 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
11/20/2025 14:00	RM CWG	RM CWG
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB170641BL	PBS641	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3662-05DUP	B1-0.0-1.0-20251117DUP	5.07	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3662-05	B1-0.0-1.0-20251117	5.07	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3678-02	COMPOSITE-STONE	5.05	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : RCN SOIL

WorkList ID : 193259

Department : Distillation

Date : 11-20-2025 08:45:00

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3662-05	B1-0-0-1.0-20251117	Solid	Reactive Cyanide	Cool 4 deg C	HDR108	D41	11/17/2025	9012B
Q3678-02	COMPOSITE-STONE	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	D41	11/19/2025	9012B

Date/Time 11/20/2025 11:05
 Raw Sample Received by: RM (WJ)
 Raw Sample Relinquished by: JP (WJ)

Date/Time 11/20/2025 13:30
 Raw Sample Received by: JP (WJ)
 Raw Sample Relinquished by: JP (WJ)

SOP ID : M9030B-Sulfide-13

SDG No : N/A

Start Digest Date: 11/20/2025 Time : 12:00 Temp : N/A

Matrix : SOIL

End Digest Date: 11/20/2025 Time : 13:30 Temp : N/A

Pipette ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#2

Digestion tube ID : M5595

Block Thermometer ID : N/A

Block ID : WC-DIST-BLOCK-1

Filter paper ID : N/A

Prep Technician Signature: RM

Weigh By : IZ

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

Extraction Conformance/Non-Conformance Comments:

11/20/2025 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
PB170643BL	PBS643	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3662-05DUP	B1-0.0-1.0-20251117DUP	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3662-05	B1-0.0-1.0-20251117	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3678-02	COMPOSITE-STONE	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 : 193258

Department : Distillation

Date : 11-20-2025 08:44:54

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3662-05	B1-0-0-1-0-20251117	Solid	Reactive Sulfide	Cool 4 deg C	HDR108	D41	11/17/2025	9034
Q3678-02	COMPOSITE-STONE	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	D41	11/19/2025	9034

Date/Time 11/20/2025 11:05
 Raw Sample Received by: RMW
 Raw Sample Relinquished by: RMW

Date/Time 11/20/2025 13:20
 Raw Sample Received by: RMW
 Raw Sample Relinquished by: RMW

Instrument ID: FILTER/GRAVIMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB137960

Review By	Eman	Review On	11/19/2025 3:15:20 PM
Supervise By	Iwona	Supervise On	11/20/2025 10:41:01 AM
SubDirectory	LB137960	Test	Paint Filter
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	Q3662-04	B1-0.0-1.0-20251117	SAM	11/19/25 08:45		Eman	OK
2	Q3662-04DUP	B1-0.0-1.0-20251117	DUP	11/19/25 08:52		Eman	OK
3	Q3664-01	ARS20-0001	SAM	11/19/25 08:59		Eman	OK
4	Q3664-03	ARS20-0013	SAM	11/19/25 09:07		Eman	OK
5	Q3664-05	291399	SAM	11/19/25 09:15		Eman	OK
6	Q3669-01	EO-01-11182025	SAM	11/19/25 09:22		Eman	OK

Instrument ID: FLAME

Daily Analysis Runlog For Sequence/QC Batch ID # LB137961

Review By	Eman	Review On	11/19/2025 10:30:20 AM
Supervise By	Iwona	Supervise On	11/19/2025 10:30:27 AM
SubDirectory	LB137961	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	Q3662-05	B1-0.0-1.0-20251117	SAM	11/19/25 09:35		Eman	OK
2	Q3662-05DUP	B1-0.0-1.0-20251117	DUP	11/19/25 09:42		Eman	OK
3	Q3666-01	BUR-25-0103	SAM	11/19/25 09:49		Eman	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB137963

Review By	rubina	Review On	11/19/2025 1:35:22 PM
Supervise By	Iwona	Supervise On	11/19/2025 1:35:34 PM
SubDirectory	LB137963	Test	Hexavalent Chromium
STD. NAME	STD REF.#		
ICAL Standard	N/A		
ICV Standard	N/A		
CCV Standard	N/A		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP115688,WP115340,WP115339,WP114310		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	11/19/25 13:10		rubina	OK
2	CAL2	CAL2	CAL	11/19/25 13:10		rubina	OK
3	CAL3	CAL3	CAL	11/19/25 13:11		rubina	OK
4	CAL4	CAL4	CAL	11/19/25 13:11		rubina	OK
5	CAL5	CAL5	CAL	11/19/25 13:12		rubina	OK
6	CAL6	CAL6	CAL	11/19/25 13:12		rubina	OK
7	CAL7	CAL7	CAL	11/19/25 13:13		rubina	OK
8	ICV	ICV	ICV	11/19/25 13:13		rubina	OK
9	ICB	ICB	ICB	11/19/25 13:14		rubina	OK
10	CCV1	CCV1	CCV	11/19/25 13:14		rubina	OK
11	CCB1	CCB1	CCB	11/19/25 13:15		rubina	OK
12	RL Check	RL Check	RL	11/19/25 13:15		rubina	OK
13	PB170592BL	PB170592BL	MB	11/19/25 13:16		rubina	OK
14	PB170592BS	PB170592BS	LCS	11/19/25 13:16		rubina	OK
15	Q3652-01	TP-1	SAM	11/19/25 13:17		rubina	OK
16	Q3652-01DUP	TP-1DUP	DUP	11/19/25 13:17		rubina	OK
17	Q3652-01MSPre	TP-1MS	MS	11/19/25 13:18		rubina	OK
18	Q3652-01MS2Ins	TP-1MS	MS	11/19/25 13:18		rubina	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB137963

Review By	rubina	Review On	11/19/2025 1:35:22 PM
Supervise By	Iwona	Supervise On	11/19/2025 1:35:34 PM
SubDirectory	LB137963	Test	Hexavalent Chromium
STD. NAME	STD REF.#		
ICAL Standard	N/A		
ICV Standard	N/A		
CCV Standard	N/A		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP115688,WP115340,WP115339,WP114310		

19	Q3652-01MS3Post	TP-1MS	MS	11/19/25 13:19		rubina	OK
20	Q3656-01	T2-GRAVEL	SAM	11/19/25 13:19		rubina	OK
21	Q3658-01	NB-07-111725	SAM	11/19/25 13:20		rubina	OK
22	Q3659-01	TANK-1-COMP-1	SAM	11/19/25 13:20		rubina	OK
23	CCV2	CCV2	CCV	11/19/25 13:21		rubina	OK
24	CCB2	CCB2	CCB	11/19/25 13:21		rubina	OK
25	Q3659-02	TANK-1-COMP-2	SAM	11/19/25 13:22		rubina	OK
26	Q3662-04	B1-0.0-1.0-20251117	SAM	11/19/25 13:22		rubina	OK
27	Q3664-01	ARS20-0001	SAM	11/19/25 13:23		rubina	OK
28	Q3664-03	ARS20-0013	SAM	11/19/25 13:23		rubina	OK
29	Q3664-05	291399	SAM	11/19/25 13:24		rubina	OK
30	Q3669-01	EO-01-11182025	SAM	11/19/25 13:24		rubina	OK
31	CCV3	CCV3	CCV	11/19/25 13:25		rubina	OK
32	CCB3	CCB3	CCB	11/19/25 13:25		rubina	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB137965

Review By	rubina	Review On	11/19/2025 3:49:02 PM
Supervise By	Iwona	Supervise On	11/19/2025 3:49:19 PM
SubDirectory	LB137965	Test	Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP115736,WP115737,WP115738,WP115739,WP115740,WP115741,WP115742		
ICV Standard	W3012		
CCV Standard	WP115737		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP113838		
Chk Standard	WP115157,WP114324,WP115743		

Sr#	SampleID	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	11/19/25 09:35		rubina	OK
2	5.0PPBCN	5.0PPBCN	CAL2	11/19/25 09:35		rubina	OK
3	10PPBCN	10PPBCN	CAL3	11/19/25 09:35		rubina	OK
4	50PPBCN	50PPBCN	CAL4	11/19/25 09:35		rubina	OK
5	100PPBCN	100PPBCN	CAL5	11/19/25 09:35		rubina	OK
6	250PPBCN	250PPBCN	CAL6	11/19/25 09:35		rubina	OK
7	500PPBCN	500PPBCN	CAL7	11/19/25 09:35		rubina	OK
8	ICV1	ICV1	ICV	11/19/25 10:36		rubina	OK
9	ICB1	ICB1	ICB	11/19/25 10:36		rubina	OK
10	CCV1	CCV1	CCV	11/19/25 10:36		rubina	OK
11	CCB1	CCB1	CCB	11/19/25 10:36		rubina	OK
12	PB170616BL	PB170616BL	MB	11/19/25 10:36		rubina	OK
13	PB170616BS	PB170616BS	LCS	11/19/25 10:36		rubina	OK
14	LOWPB170616	LOWPB170616	SAM	11/19/25 10:44		rubina	OK
15	HIGHPB170616	HIGHPB170616	SAM	11/19/25 10:44		rubina	OK
16	Q3662-02	B3-0.0-1.0-20251117	SAM	11/19/25 10:44		rubina	OK
17	Q3664-01	ARS20-0001	SAM	11/19/25 10:51		rubina	OK
18	Q3664-03	ARS20-0013	SAM	11/19/25 10:59		rubina	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB137965

Review By	rubina	Review On	11/19/2025 3:49:02 PM
Supervise By	Iwona	Supervise On	11/19/2025 3:49:19 PM
SubDirectory	LB137965	Test	Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP115736,WP115737,WP115738,WP115739,WP115740,WP115741,WP115742		
ICV Standard	W3012		
CCV Standard	WP115737		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP113838		
Chk Standard	WP115157,WP114324,WP115743		

19	Q3664-05	291399	SAM	11/19/25 10:59		rubina	OK
20	Q3669-01	EO-01-11182025	SAM	11/19/25 10:59		rubina	OK
21	CCV2	CCV2	CCV	11/19/25 10:59		rubina	OK
22	CCB2	CCB2	CCB	11/19/25 11:03		rubina	OK
23	Q3662-04	B1-0.0-1.0-20251117	SAM	11/19/25 11:46		rubina	OK
24	Q3662-04DUP	B1-0.0-1.0-20251117	DUP	11/19/25 11:46		rubina	OK
25	Q3662-04MS	B1-0.0-1.0-20251117	MS	11/19/25 11:46		rubina	OK
26	Q3662-04MSD	B1-0.0-1.0-20251117	MSD	11/19/25 11:46		rubina	OK
27	CCV3	CCV3	CCV	11/19/25 11:46		rubina	OK
28	CCB3	CCB3	CCB	11/19/25 11:46		rubina	OK

Instrument ID: WC PH METER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB137975

Review By	jignesh	Review On	11/20/2025 9:17:16 AM
Supervise By	Iwona	Supervise On	11/20/2025 10:17:12 AM
SubDirectory	LB137975	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	11/20/25 08:15		Jignesh	OK
2	CAL2	CAL2	CAL	11/20/25 08:16		Jignesh	OK
3	CAL3	CAL3	CAL	11/20/25 08:17		Jignesh	OK
4	ICV	ICV	ICV	11/20/25 08:20		Jignesh	OK
5	CCV1	CCV1	CCV	11/20/25 08:22		Jignesh	OK
6	Q3662-05	B1-0.0-1.0-20251117	SAM	11/20/25 08:30		Jignesh	OK
7	Q3662-05DUP	B1-0.0-1.0-20251117	DUP	11/20/25 08:36		Jignesh	OK
8	Q3678-02	COMPOSITE-STONE	SAM	11/20/25 08:48		Jignesh	OK
9	CCV2	CCV2	CCV	11/20/25 08:50		Jignesh	OK

Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QC Batch ID # LB137993

Review By	rubina	Review On	11/20/2025 4:42:35 PM
Supervise By	Iwona	Supervise On	11/20/2025 4:56:10 PM
SubDirectory	LB137993	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	PB170643BL	PB170643BL	MB	11/20/25 16:20		rubina	OK
2	Q3662-05	B1-0.0-1.0-20251117	SAM	11/20/25 16:23		rubina	OK
3	Q3662-05DUP	B1-0.0-1.0-20251117	DUP	11/20/25 16:26		rubina	OK
4	Q3678-02	COMPOSITE-STONE	SAM	11/20/25 16:29		rubina	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB137996

Review By	rubina	Review On	11/20/2025 5:26:09 PM
Supervise By	Iwona	Supervise On	11/21/2025 2:16:19 PM
SubDirectory	LB137996	Test	Reactive Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP115751,WP115752,WP115753,WP115754,WP115755,WP115756,WP115757		
ICV Standard	WP115758		
CCV Standard	WP115752		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP115157,WP114324,WP115759		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	11/20/25 09:29		rubina	OK
2	5.0PPBCN	5.0PPBCN	CAL2	11/20/25 09:29		rubina	OK
3	10PPBCN	10PPBCN	CAL3	11/20/25 09:29		rubina	OK
4	50PPBCN	50PPBCN	CAL4	11/20/25 09:29		rubina	OK
5	100PPBCN	100PPBCN	CAL5	11/20/25 09:29		rubina	OK
6	250PPBCN	250PPBCN	CAL6	11/20/25 09:29		rubina	OK
7	500PPBCN	500PPBCN	CAL7	11/20/25 09:29		rubina	OK
8	ICV1	ICV1	ICV	11/20/25 15:01		rubina	OK
9	ICB1	ICB1	ICB	11/20/25 15:01		rubina	OK
10	CCV1	CCV1	CCV	11/20/25 15:01		rubina	OK
11	CCB1	CCB1	CCB	11/20/25 15:01		rubina	OK
12	PB170641BL	PB170641BL	MB	11/20/25 15:01		rubina	OK
13	Q3662-05	B1-0.0-1.0-20251117	SAM	11/20/25 15:09		rubina	OK
14	Q3662-05DUP	B1-0.0-1.0-20251117	DUP	11/20/25 15:09		rubina	OK
15	Q3678-02	COMPOSITE-STONE	SAM	11/20/25 15:09		rubina	OK
16	PB170642BL	PB170642BL	MB	11/20/25 15:09		rubina	OK
17	Q3682-01	3456	SAM	11/20/25 15:09		rubina	OK
18	Q3682-01DUP	3456DUP	DUP	11/20/25 15:09		rubina	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB137996

Review By	rubina	Review On	11/20/2025 5:26:09 PM
Supervise By	Iwona	Supervise On	11/21/2025 2:16:19 PM
SubDirectory	LB137996	Test	Reactive Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP115751,WP115752,WP115753,WP115754,WP115755,WP115756,WP115757		
ICV Standard	WP115758		
CCV Standard	WP115752		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP115157,WP114324,WP115759		

19	Q3685-03	4206	SAM	11/20/25 15:16		rubina	OK
20	CCV2	CCV2	CCV	11/20/25 15:16		rubina	OK
21	CCB2	CCB2	CCB	11/20/25 15:20		rubina	OK

Prep Standard - Chemical Standard Summary

Order ID : Q3662

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

Prepbatch ID : PB170592, PB170616, PB170641, PB170643,

Sequence ID/Qc Batch ID: LB137960, LB137961, LB137963, LB137965, LB137975, LB137993, LB137996,

Standard ID :

WP113836, WP113837, WP113838, WP113880, WP113881, WP114310, WP114311, WP114324, WP115157, WP115334, WP115335, WP115338, WP115339, WP115340, WP115410, WP115688, WP115735, WP115736, WP115737, WP115738, WP115739, WP115740, WP115741, WP115742, WP115743, WP115750, WP115751, WP115752, WP115753, WP115754, WP115755, WP115756, WP115757, WP115758, WP115759,

Chemical ID :

E3982, M6151, M6162, M6186, M6187, W2202, W2651, W2652, W2668, W2926, W2979, W3012, W3019, W3093, W3112, W3113, W3139, W3149, W3152, W3161, W3163, W3168, W3178, W3191, W3200, W3203, W3206, 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 (WC SC-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>
3850	Cyanide MS-MSD spiking solution, 5PPM	WP113837	07/08/2025	11/30/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
<u>FROM</u>		(WC)						
1.00000ml of W3214 + 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>
3371	Cyanide LCS Spike Solution, 5PPM	WP113838	07/08/2025	12/24/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 07/08/2025
<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>
1993	HEXAVALENTCHROMIUM STOCK STD 1, 50PPM	WP113880	07/10/2025	01/10/2026	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 07/10/2025
<u>FROM</u>	0.14140gram of W2651 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1994	HEXAVALENTCHROMIUM STOCK STD 2, 50PPM	WP113881	07/10/2025	01/10/2026	Rubina Mughal	WETCHEM_SCALE_5 (WCS-5)	None	Iwona Zarych 07/10/2025
<u>FROM</u> 0.14140gram of W2652 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3354	Hexchrome Cleaning Solution	WP114310	08/19/2025	11/27/2025	Rubina Mughal	None	None	Jignesh Parikh 08/19/2025
<u>FROM</u> 182.00000ml of M6151 + 727.00000ml of W3112 + 91.00000ml of M6162 = Final Quantity: 1000.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
160	0.5M ZINC ACETATE	WP114311	08/19/2025	02/17/2026	Rubina Mughal	WETCHEM_SCALE_8 (WC-7)	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 (WC-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							

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
539	CN BUFFER	WP115157	10/10/2025	12/03/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Iwona Zarych
								10/14/2025

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

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1714	Sulfuric Acid, 50% (v/v)	WP115334	10/27/2025	04/27/2026	Rubina Mughal	None	None	Jignesh Parikh
								10/27/2025

FROM 500.00000ml of M6186 + 500.00000ml of W3112 = Final Quantity: 1000.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3214	Magnesium Chloride For Cyanide 2.5M(51%W/V)	WP115335	10/27/2025	04/27/2026	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Jignesh Parikh 10/27/2025
<u>FROM</u> 500.00000ml of W3112 + 510.00000gram of W3152 = 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>
148	hexchrome digestion fluid	WP115338	10/27/2025	11/27/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Jignesh Parikh 10/27/2025
<u>FROM</u> 120.00000gram of W3163 + 4.00000L of W3112 + 80.00000gram of W3113 = Final Quantity: 4000.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1836	HNO3 Hex-Chrome, 5M	WP115339	10/27/2025	01/28/2026	Rubina Mughal	None	None	Jignesh Parikh
								10/27/2025

FROM 320.00000ml of M6187 + 680.00000ml of W3112 = Final Quantity: 1000.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
126	5N sulfuric acid	WP115340	10/27/2025	04/27/2026	Rubina Mughal	None	None	Jignesh Parikh
								10/27/2025

FROM 140.00000ml of M6186 + 860.00000ml of W3112 = Final Quantity: 1.000 L



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
190	HEX CHROME PHOSPHATE BUFFER	WP115410	11/03/2025	05/03/2026	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Iwona Zarych 11/03/2025
<u>FROM</u> 0.84500L of W3112 + 68.04000gram of W3206 + 87.09000gram of W3168 = Final Quantity: 1.000 L								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
114	hexavalent chromium color reagent	WP115688	11/14/2025	11/21/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 11/17/2025
<u>FROM</u> 0.25000gram of W2979 + 50.00000ml of E3982 = Final Quantity: 50.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3456	Cyanide Intermediate Working Std, 5PPM	WP115735	11/19/2025	11/20/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/20/2025
<u>FROM</u> 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	WP115736	11/19/2025	11/20/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/20/2025
<u>FROM</u> 45.00000ml of WP113836 + 5.00000ml of WP115735 = 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	WP115737	11/19/2025	11/20/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
(WC) FROM 2.50000ml of WP115735 + 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	WP115738	11/19/2025	11/20/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/20/2025
<u>FROM</u> 1.00000ml of WP115735 + 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	WP115739	11/19/2025	11/20/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
(WC) FROM 0.50000ml of WP115735 + 49.50000ml 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>
8	Calibration Standard 10 ppb	WP115740	11/19/2025	11/20/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/20/2025
<u>FROM</u>	1.00000ml of WP115736 + 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	WP115741	11/19/2025	11/20/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
FROM 0.50000ml of WP115736 + 49.50000ml 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>
167	0 ppb CN calibration std	WP115742	11/19/2025	11/20/2025	Rubina Mughal	None	None	Iwona Zarych 11/20/2025
<u>FROM</u> 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>
1582	Chloramine T solution, 0.014M	WP115743	11/19/2025	11/20/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	Glass Pipette-A	Iwona Zarych 11/20/2025
<u>FROM</u>	0.08000gram of W3139 + 20.00000ml of W3112 = Final Quantity: 20.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3456	Cyanide Intermediate Working Std, 5PPM	WP115750	11/20/2025	11/21/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/20/2025
<u>FROM</u> 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	WP115751	11/20/2025	11/21/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/20/2025
FROM 45.00000ml of WP113836 + 5.00000ml of WP115750 = 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	WP115752	11/20/2025	11/21/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 11/20/2025
<u>FROM</u> 2.50000ml of WP115750 + 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	WP115753	11/20/2025	11/21/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
(WC) FROM 1.00000ml of WP115750 + 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	WP115754	11/20/2025	11/21/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
FROM 0.50000ml of WP115750 + 49.50000ml 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>
8	Calibration Standard 10 ppb	WP115755	11/20/2025	11/21/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
FROM 1.00000ml of WP115751 + 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	WP115756	11/20/2025	11/21/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/20/2025
<u>FROM</u>	0.50000ml of WP115751 + 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	WP115757	11/20/2025	11/21/2025	Rubina Mughal	None	None	Iwona Zarych
								11/20/2025

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	WP115758	11/20/2025	11/21/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3	Iwona Zarych
							(WC)	11/20/2025

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	WP115759	11/20/2025	11/21/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCS-5)	Glass Pipette-A	Iwona Zarych
<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-9254-03 / Acetone, Ultra Resi (cs/4x4L)	24L1062001	10/04/2027	10/31/2025 / RUPESH	10/31/2025 / RUPESH	E3982

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 #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24H0162012	11/27/2025	05/27/2025 / Sagar	04/27/2025 / Sagar	M6162

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	07/12/2026	08/13/2025 / Sagar	08/06/2025 / Sagar	M6186

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24H0162012	01/28/2026	08/29/2025 / Sagar	08/08/2025 / Sagar	M6187

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA14125-36 / LEAD (II) CHROMATE, ACS, 500G	U19B018	01/23/2027	01/23/2017 / apatel	01/23/2017 / apatel	W2202

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA13450-36 / Potassium Dichromate, 500g(NEW)	T15F019	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2651

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P188-500 / Potassium Dichromate, 500g(new-2nd lot)	194664	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2652

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	31390 / 1,5-Diphenylcarbazide	MKCR6636	12/09/2027	12/09/2022 / lwona	12/09/2022 / lwona	W2979

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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	01237-10KG / Magnesium Chloride Hexahydrate ACS 10KG	002126-2019-201	11/25/2029	11/25/2024 / Iwona	11/25/2024 / Iwona	W3152

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.	EM-SX0395-3 / SODIUM CARBONATE ANHYDR 2.5KG	24E3156178	09/30/2027	12/10/2024 / Iwona	12/10/2024 / Iwona	W3163

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3252-1 / POTAS PHOSPHATE, DIBASIC PWD, ACS, 500G	24H0856239	04/19/2028	01/03/2025 / Iwona	01/03/2025 / Iwona	W3168

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	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.	J3246-1 / POTAS PHOSPHATE, MONO, CRYS, ACS, 500G	MKCX1379	01/31/2029	04/29/2025 / lwona	04/29/2025 / lwona	W3206

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

CHEMICAL RECEIPT LOG BOOK

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

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,4LITRE	250904J	02/28/2027	10/03/2025 / lwona	10/03/2025 / lwona	W3248

Certificate of analysis

Product No. 14125
Product: Lead(II) chromate, ACS, 98%
Lot No.: U19B018

Test	Limits	Results
Assay	98.0 % min	99.3 %
Soluble matter	0.15 % max	< 0.02 %
Carbon compounds	0.01 % max	< 0.01 %

Traceable to NIST? Yes

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ThermoFisher
S C I E N T I F I C

Product No.: 13450
Product: Potassium dichromate, ACS, 99.0% min
Lot No.: T15F019

Test	Limits	Results
Appearance	Orange-red crystals	Orange-red crystals
Identification	To Pass	Passes
Purity	99.0 % min	99.67 %
Insoluble matter	0.005 % max	0.004 %
Loss on drying	0.05 % max	0.03 %
Chloride	0.001 % max	< 0.001 %
Sulfate	0.005 % max	< 0.005 %
Iron	0.001 % max	< 0.001 %
Calcium	0.003 % max	0.0012 %
Sodium	0.02 % max	0.0047 %

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This is to certify that units of the lot number above were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the purchaser, formulator or those performing further manufacturing to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The above information is the actual analytical results obtained.

W3019
rec 4/3/23

3050 Spruce Street, Saint Louis, MO 63103, USA

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

Certificate of Analysis

Product Name:

Pyridine - anhydrous, 99.8%

Product Number:

270970

Batch Number:

SHBQ2113

Brand:

SIAL

CAS Number:

110-86-1

MDL Number:

MFCD00011732

Formula:

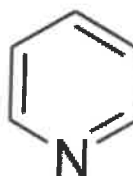
C₅H₅N

Formula Weight:

79.10 g/mol

Quality Release Date:

15 DEC 2022



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


Larry Coers, Director
Quality Control
Sheboygan Falls, WI US

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





Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System
Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	P188	Quality Test / Release Date	08/12/2019
Lot Number	194664		
Description	POTASSIUM DICHROMATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Aug/2024
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		
Chemical Comment			

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Fine, orange-red crystals
ASSAY	%	>= 99	99.2
CALCIUM	%	<= 0.003	<0.003
CHLORIDE	%	<= 0.001	<0.001
LOSS ON DRYING @ 105 C	%	<= 0.05	<0.05
SULFATE (SO4)	%	<= 0.005	<0.005
INSOLUBLE MATTER	%	<= 0.005	0.003
IRON (Fe)	%	<= 0.001	<0.001
SODIUM (Na)	%	<= 0.02	<0.02
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST

Jerusa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above. If there are any questions with this certificate, please call at (800) 227-6701.

*Based on suggested storage condition.

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

 **avantors**™



Material No.: 9254-03

Batch No.: 24L1062001

Manufactured Date: 2024-10-04

Expiration Date: 2027-10-04

Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ((CH ₃) ₂ CO) (by GC, corrected for water)	>= 99.4 %	99.7 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.3 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titration Acid (µeq/g)	<= 0.3	0.1
Titration Base (µeq/g)	<= 0.6	<0.1
Water (H ₂ O)	<= 0.5 %	0.3 %
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	<= 5	<1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	<= 10	1

For Laboratory, Research, or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

Received on 10/29/25

E3982

J. Croak

Jamie Croak
Director Quality Operations, Bioscience Production

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

Avantor Performance Materials LLC



R: 02/20/20
53

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

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

ICV5-0415

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

ICV6-0400

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

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

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

ICV1-1014		
Element	Concentration ($\mu\text{g/L}$) (after 10-fold dilution)	Concentration ($\mu\text{g/L}$) (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 ($\mu\text{g/L}$) (after 100-fold dilution)	Analyte	Concentration ($\mu\text{g/L}$) (after 100-fold dilution)
Hg	4.0	CN ⁻	99

W3011
W3012
W3013
W3014
W3015

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

Nitric Acid 69%
CMOS

 **avantorsm**



m-6162

Material No.: 9606-03
Batch No.: 24H0162012
Manufactured Date: 2024-06-28
Retest Date: 2029-06-27
Revision No.: 0

R. Date :- 04/27/2025

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	< 1 ppm
Chloride (Cl)	≤ 0.08 ppm	0.03 ppm
Phosphate (PO ₄)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	0.1 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	0.1 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 1 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 1 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 1.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

 **avantorsTM**



Material No.: 9606-03
Batch No.: 24H0162012

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 1 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	1 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 1.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	13 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	5 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

 **avantor™**



Material No.: 9606-03
Batch No.: 24H0162012

Test	Specification	Result
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For Microelectronic Use

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



Jamie Croak
Director Quality Operations, Bioscience Production

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

avantor™



M6186

Recieve Date :- 08/06/25

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

Certificate of Analysis

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

>>> Continued on page 2 >>>

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

 **avantorsm**

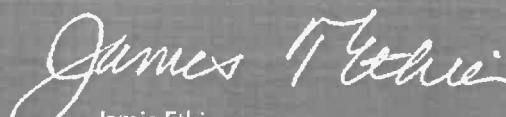


Material No.: 9673-33
Batch No.: 23D2462010

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

For Laboratory, Research, or Manufacturing Use

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


Jamie Ethier
Vice President Global Quality

Nitric Acid 69%
CMOS



M6187

R.D :- 08/08/25

Material No.: 9606-03
Batch No.: 24H0162012
Manufactured Date: 2024-06-28
Retest Date: 2029-06-27
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	< 1 ppm
Chloride (Cl)	≤ 0.08 ppm	0.03 ppm
Phosphate (PO ₄)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	0.1 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	0.1 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 1 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 1 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 1.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS



Material No.: 9606-03
Batch No.: 24H0162012

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 1 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	1 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 1.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	13 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	5 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

 **avantorsTM**



Material No.: 9606-03
Batch No.: 24H0162012

Test	Specification	Result
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For Microelectronic Use

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



Jamie Croak
Director Quality Operations, Bioscience Production

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

(sodium dihydrogen phosphate, monohydrate)



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

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

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

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

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


Jamie Ethier
Vice President Global Quality

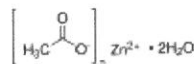
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Certificate of Analysis

Product Name:

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

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



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

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


Larry Coers, Director
Quality Control
Milwaukee, WI US

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



W 2979

Rec: 12/09/22

exp. 12/09/27

Product Name:

1,5-Diphenylcarbazide - ACS reagent

Product Number:

259225

Batch Number:

MKCR6636

Brand:

SIAL

CAS Number:

140-22-7

MDL Number:

MFCD00003013

Formula:

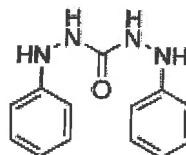
C₁₃H₁₄N₄O

Formula Weight:

242.28 g/mol

Quality Release Date:

02 JUN 2022



Certificate of Analysis

Test	Specification	Result
Appearance (Color)	Conforms to Requirements	Pink
Off-White to Pink, Light Purple or Tan		
Appearance (Form)	Powder or Chunks	Powder
Melting Point	173.0 - 176.0 °C	173.0 °C
Infrared Spectrum	Conforms to Structure	Conforms
Residue on ignition (Ash)	≤ 0.05 %	0.01 %
15 minutes, 800 Degrees Celsius		
Solubility	Pass	Pass
Sensitivity Test	Pass	Pass
Meets ACS Requirements	Current ACS Specification	Conforms



Larry Coers, Director
Quality Control
Milwaukee, WI US

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



**RICCA CHEMICAL COMPANY®**

1490 Lammers Pike

Batesville, IN 47006

<http://www.riccachemical.com>

1-888-GO-RICCA

customerservice@riccachemical.com

Certificate of Analysis

W3093
004121
04/03/2024
16

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

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

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

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

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

Test	Specification	Result
Appearance	Yellow liquid	Passed

*Not a certified value.

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

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

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

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

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



Paul Brandon (01/08/2024)

Production Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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



Certificate of Analysis



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

Order our products online thermofisher.com/chemicals

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

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



Certificate of Analysis

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

Lot Number: 4408P62

Product Number: 8000

Manufacture Date: AUG 28, 2024

Expiration Date: AUG 2026

This product is Mercury-free.

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

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

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

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

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

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

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

Paul Brandon (08/28/2024)
Production Manager

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

Chem-Impex International, Inc.

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

935 Dillon Drive

Wood Dale, IL 60191

Fax: (630) 766-2218**Web site:** www.chemimpex.com**Manufacturing site:**

825 Dillon Drive

Wood Dale, IL 60191

Certificate of Analysis

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

Magnesium chloride•6H₂O

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

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

Certificate of Analysis

Catalog Number: 01237

Lot Number: 002126-2019-201

Remarks

See material safety data sheet for additional information

For laboratory use only

The foregoing is a copy of the Certificate of Analysis as provided by our supplier

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

Bala Kumar
Quality Control Manager



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

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W3163 Rec. on 12/10/24 by IZ

Certificate of Analysis



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

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

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

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

Internal ID #: 710

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



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

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

Internal ID #: 793

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

**RICCA CHEMICAL COMPANY®**

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

Certificate of Analysis

W21758 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

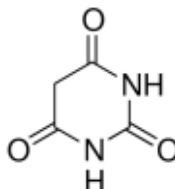
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Certificate of Analysis

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.

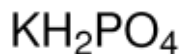


Certificate of Analysis

Product Name:

Potassium phosphate monobasic - ACS reagent, ≥99.0%

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



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



Larry Coers, Director
Quality Control
Milwaukee, WI US

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





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

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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:

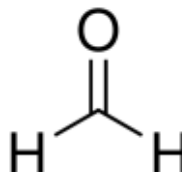
Formaldehyde solution - ACS reagent, 37 wt. % in H₂O, contains 10-15% Methanol as stabilizer (to prevent polymerization)**Product Number:** 252549**Batch Number:** MKCW7614

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: 11/19/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:30
In Date: 11/18/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 104
Time OUT: 08:35
Out Date: 11/19/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID-OVEN

QC:LB137951

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
Q3662-01	B3-0.5-1.0-20251117	1	1.15	10.55	11.7	10.77	91.2	
Q3662-02	B3-0.0-1.0-20251117	2	1.19	10.67	11.86	10.23	84.7	
Q3662-03	B1-0.5-1.0-20251117	3	1.16	10.37	11.53	10.76	92.6	
Q3662-04	B1-0.0-1.0-20251117	4	1.17	10.62	11.79	10.53	88.1	
Q3663-01	2053	5	1.00	1.00	2.00	2.00	100.0	oil sample
Q3663-02	2054	6	1.00	1.00	2.00	2.00	100.0	oil sample
Q3664-01	ARS20-0001	7	1.00	1.00	2.00	2.00	100.0	Concrete sample
Q3664-02	ARS20-0001-E2	8	1.00	1.00	2.00	2.00	100.0	Concrete sample
Q3664-03	ARS20-0013	9	1.00	1.00	2.00	2.00	100.0	Concrete sample
Q3664-04	ARS20-0013-E2	10	1.00	1.00	2.00	2.00	100.0	Concrete sample
Q3664-05	291399	11	1.00	1.00	2.00	2.00	100.0	STONE SAMPLE, 100% SOLIDS
Q3664-06	291399-E2	12	1.00	1.00	2.00	2.00	100.0	STONE SAMPLE, 100% SOLIDS
Q3665-01	BUR-25-0101	13	1.00	1.00	2.00	2.00	100.0	WIPE SAMPLE
Q3666-01	BUR-25-0103	14	1.18	10.38	11.56	10.66	91.3	
Q3667-01	RIGHT-SIDE-WALL	15	1.00	1.00	2.00	2.00	100.0	Concrete sample
Q3667-03	LEFT-SIDE-WALL	16	1.00	1.00	2.00	2.00	100.0	Concrete sample
Q3667-05	LEFT-SIDE-FLOOR	17	1.00	1.00	2.00	2.00	100.0	Concrete sample
Q3667-07	ELEVATED-DIVIDE	18	1.00	1.00	2.00	2.00	100.0	Concrete sample
Q3668-01	2015	19	1.00	1.00	2.00	2.00	100.0	Concrete sample
Q3669-01	EO-01-11182025	20	1.11	10.43	11.54	10.8	92.9	
Q3669-02	EO-01-11182025-E2	21	1.15	9.98	11.13	10.33	92.0	
Q3669-02D	EO-01-11182025-E2DUP	22	1.19	9.96	11.15	10.35	92.0	

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

WORKLIST(Hardcopy Internal Chain)

137951

WorkList Name : %1-111825 WorkList ID : 193178 Department : Wet-Chemistry Date : 11-18-2025 10:44:37

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3662-01	B3-0.5-1.0-20251117	Solid	Percent Solids	Cool 4 deg C	HDR108	D41	11/17/2025	Chemtech -SO
Q3662-02	B3-0.0-1.0-20251117	Solid	Percent Solids	Cool 4 deg C	HDR108	D41	11/17/2025	Chemtech -SO
Q3662-03	B3-0.5-1.0-20251117	Solid	Percent Solids	Cool 4 deg C	HDR108	D41	11/17/2025	Chemtech -SO
Q3662-04	B3-0.0-1.0-20251117	Solid	Percent Solids	Cool 4 deg C	HDR108	D41	11/17/2025	Chemtech -SO
Q3663-01	2053	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	11/18/2025	Chemtech -SO
Q3663-02	2054	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	11/18/2025	Chemtech -SO
Q3664-01	ARS20-0001	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	11/18/2025	Chemtech -SO
Q3664-02	ARS20-0001-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	11/18/2025	Chemtech -SO
Q3664-03	ARS20-0013	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	11/18/2025	Chemtech -SO
Q3664-04	ARS20-0013-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	11/18/2025	Chemtech -SO
Q3664-05	291399	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	11/18/2025	Chemtech -SO
Q3664-06	291399-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	11/18/2025	Chemtech -SO
Q3665-01	BUR-25-0101	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	11/18/2025	Chemtech -SO
Q3666-01	BUR-25-0103	Solid	Percent Solids	Cool 4 deg C	PSEG03	D31	11/18/2025	Chemtech -SO
Q3667-01	RIGHT-SIDE-WALL	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	11/18/2025	Chemtech -SO
Q3667-03	LEFT-SIDE-WALL	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	11/18/2025	Chemtech -SO
Q3667-05	LEFT-SIDE-FLOOR	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	11/18/2025	Chemtech -SO
Q3667-07	ELEVATED-DIVIDE	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	11/18/2025	Chemtech -SO
Q3668-01	2015	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	11/18/2025	Chemtech -SO
Q3669-01	EO-01-11182025	Solid	Percent Solids	Cool 4 deg C	PSEG05	D41	11/18/2025	Chemtech -SO
Q3669-02	EO-01-11182025-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	D41	11/18/2025	Chemtech -SO

Date/Time: 11/18/25 15:35
 Raw Sample Received by: *SL WOC*
 Raw Sample Relinquished by: *SL WOC*
 Date/Time: 11/18/25 17:40
 Raw Sample Received by: *CP SC*
 Raw Sample Relinquished by: *SL WOC*



SHIPPING DOCUMENTS

CLIENT INFORMATION

COMPANY: HDR REPORT TO BE SENT TO:
ADDRESS: 50 Tree Blvd., Suite 210
CITY: Woodcliff Lake STATE: NJ ZIP: 07677
ATTENTION: Andrew Wadden
PHONE: 201-312-0752 FAX: _____

CLIENT PROJECT INFORMATION

PROJECT NAME: PVWC
PROJECT NO.: 10367568 LOCATION: Passaic, NJ
PROJECT MANAGER: Andrew Wadden
e-mail: Andrew.Wadden@HDRinc.com
PHONE: 201-312-0752 FAX: _____

CLIENT BILLING INFORMATION

BILL TO: HDR PO#: _____
ADDRESS: 50 Tree Blvd., Suite 210
CITY: Woodcliff Lake STATE: NJ ZIP: 07677
ATTENTION: Andrew Wadden PHONE: 201-312-0752

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): STANDARD TAT DAYS*
EDD: _____ 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. TEL VOCs
2. TEL SVOCs
3. Pesticides, Cyanide
4. PCBs, PAHs, Metals
5. TELD for Metals
6. Heavy Metals, BOD
7. Ignitability, Flammability
8. Volatiles, Tetrachloroethylene, P-dioxin
9. Soluble, chromate, Paint, Fumes

PRESERVATIVES

COMMENTS

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES										COMMENTS ← 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.	B3-0.5-1.0-20251117	S		✓	11/17/25	0925	4	✓									
2.	B3-0.0-1.0-20251117	S		✓	11/17/25	0930	3		✓	✓	✓						
3.	B1-0.5-1.0-20251117	S		✓	11/17/25	1055	4	✓									
4.	B1-0.0-1.0-20251117	S		✓	11/17/25	1105	6		✓	✓	✓	✓	✓	✓	✓	✓	
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>[Signature]</u>	DATE/TIME: <u>11/17/25 1315</u>	RECEIVED BY: 1. <u>[Signature]</u>	11/18/25 0957	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP <u>4.9°C</u>
RELINQUISHED BY SAMPLER: 2. _____	DATE/TIME:	RECEIVED BY: 2. _____		Comments: _____
RELINQUISHED BY SAMPLER: 3. <u>[Signature]</u>	DATE/TIME: <u>11/18/25</u>	RECEIVED BY: 3. _____		Page <u>1</u> of <u>1</u> 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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q3662	HDR108	Order Date : 11/18/2025 11:14:00 AM	Project Mgr :
Client Name : HDR, Inc.		Project Name : PVWC Linear Construction	Report Type : NJ Reduced
Client Contact : Andrew Wadden		Receive DateTime : 11/18/2025 12:00:00 AM	EDD Type : Excel NJ
Invoice Name : HDR, Inc.		Purchase Order : 11:10	Hard Copy Date :
Invoice Contact : Andrew Wadden			Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q3662-01	B3-0.5-1.0-20251117	Solid	11/17/2025	09:25					
					VOC-TCLVOA-10		8260D	10 Bus. Days	
Q3662-03	^{B1} B3 -0.5-1.0-20251117	Solid	11/17/2025	10:55					
					VOC-TCLVOA-10		8260D	10 Bus. Days	

Relinquished By :

Date / Time :


11/18/25 1245

Received By :

Date / Time :


11/18/25

Storage Area : VOA Refridgerator Room

12:45 