

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:	Q3385	OrderDate:	10/17/2025 2:02:00 PM
Client:	Ardmore Chemical	Project:	PVSC Monthly 2025
Contact:	Michael Sharphouse	Location:	D41,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q3385-01	EFF-WW	WATER			10/17/25 12:00			10/17/25
			Cyanide	SM4500-CN C,E		10/21/25	10/21/25 15:36	
Q3385-04	EFF-WW	WATER			10/17/25 12:00			10/17/25
			BOD5	SM5210 B			10/17/25 14:30	
			TSS	SM2540 D			10/22/25 12:40	



SAMPLE DATA

Report of Analysis

Client:	Ardmore Chemical	Date Collected:	10/17/25 12:00
Project:	PVSC Monthly 2025	Date Received:	10/17/25
Client Sample ID:	EFF-WW	SDG No.:	Q3385
Lab Sample ID:	Q3385-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Cyanide	0.0012	U	1	0.0012	0.0050	mg/L	10/21/25 10:40	10/21/25 15:36	SM 4500-CN C-21 plus E-21

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:	Ardmore Chemical	Date Collected:	10/17/25 12:00
Project:	PVSC Monthly 2025	Date Received:	10/17/25
Client Sample ID:	EFF-WW	SDG No.:	Q3385
Lab Sample ID:	Q3385-04	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
BOD5	386		1	0.20	2.00	mg/L		10/17/25 14:30	SM 5210 B-16
TSS	6.50		1	1.00	4.00	mg/L		10/22/25 12:40	SM 2540 D-20

Comments: _____

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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

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

OR = Over Range

N = Spiked sample recovery not within control limits



QC RESULT SUMMARY

Initial and Continuing Calibration Verification

Client: Ardmore Chemical

SDG No.: Q3385

Project: PVSC Monthly 2025

RunNo.: LB137604

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: Cyanide	ICV1	mg/L	0.094	0.099	95	85-115	10/21/2025
Sample ID: Cyanide	CCV1	mg/L	0.25	0.25	100	90-110	10/21/2025
Sample ID: Cyanide	CCV2	mg/L	0.25	0.25	100	90-110	10/21/2025

Initial and Continuing Calibration Blank Summary

Client: Ardmore Chemical

SDG No.: Q3385

Project: PVSC Monthly 2025

RunNo.: LB137604

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 Cyanide	mg/L	< 0.0025	0.0025	U	0.0012	0.005	10/21/2025
Sample ID: CCB1 Cyanide	mg/L	0.002	0.0025	J	0.0012	0.005	10/21/2025
Sample ID: CCB2 Cyanide	mg/L	< 0.0025	0.0025	U	0.0012	0.005	10/21/2025

Preparation Blank Summary

Client: Ardmore Chemical

SDG No.: Q3385

Project: PVSC Monthly 2025

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: BOD5	LB137577BL mg/L	< 0.2000	0.2000	U	0.20	2.0	10/17/2025
Sample ID: TSS	LB137611BL mg/L	1	2.0000	J	1	4	10/22/2025
Sample ID: Cyanide	PB170155BL mg/L	< 0.0025	0.0025	U	0.0012	0.005	10/21/2025

Matrix Spike Summary

Client:	Ardmore Chemical	SDG No.:	Q3385
Project:	PVSC Monthly 2025	Sample ID:	Q3385-01
Client ID:	EFF-WWMS	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/L	75-125	0.045		0.0012	U	0.04	1	112		10/21/2025

Matrix Spike Summary

Client:	Ardmore Chemical	SDG No.:	Q3385
Project:	PVSC Monthly 2025	Sample ID:	Q3385-01
Client ID:	EFF-WWMSD	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/L	75-125	0.045		0.0012	U	0.04	1	112		10/21/2025

Duplicate Sample Summary

Client:	Ardmore Chemical	SDG No.:	Q3385
Project:	PVSC Monthly 2025	Sample ID:	Q3359-02
Client ID:	CompDUP	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
BOD5	mg/L	+/-20	4600		4580		1	0.39		10/17/2025

Duplicate Sample Summary

Client:	Ardmore Chemical	SDG No.:	Q3385
Project:	PVSC Monthly 2025	Sample ID:	Q3385-01
Client ID:	EFF-WWDUP	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/L	+/-20	0.0012	U	0.0012	U	1	0		10/21/2025

Duplicate Sample Summary

Client: Ardmore Chemical	SDG No.: Q3385
Project: PVSC Monthly 2025	Sample ID: Q3385-01
Client ID: EFF-WWMSD	Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/L	+/-20	0.045		0.045		1	0		10/21/2025

Duplicate Sample Summary

Client:	Ardmore Chemical	SDG No.:	Q3385
Project:	PVSC Monthly 2025	Sample ID:	Q3385-04
Client ID:	EFF-WWDUP	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
TSS	mg/L	+/-5	6.50		6.30		1	3.13		10/22/2025

Laboratory Control Sample Summary

Client: Ardmore Chemical

SDG No.: Q3385

Project: PVSC Monthly 2025

Run No.: LB137577

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB137577BS							
BOD5	mg/L	198	186		94	1	84.6-115.4	10/17/2025

Laboratory Control Sample Summary

Client: Ardmore Chemical

SDG No.: Q3385

Project: PVSC Monthly 2025

Run No.: LB137611

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB137611BS							
TSS	mg/L	550	532		97	1	90-110	10/22/2025

Laboratory Control Sample Summary

Client: Ardmore Chemical

SDG No.: Q3385

Project: PVSC Monthly 2025

Run No.: LB137604

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB170155BS							
Cyanide	mg/L	0.1	0.094		94	1	85-115	10/21/2025



RAW DATA

BOD5 LOG

ANALYST: rubin

SUPERVISOR: Iwona

Analysis Date: 10/17/2025

MANGANOUS SULFATE SOLUTION: W3103

Alkaline Iodide Azide: W3109

Sodium Thiosulfate, 0.025N: W3248

NaOH, 1N: WP113878

IncubatorID: INCUBATOR #3

GuageID: 0511064

Zero DO: WP114920

QC BATCH ID: LB137577

BOD Water: WP115239

Starch: W3149

Sulfuric acid, 1N: WP112832

POLYSEED: WP115241

GGA: WP115240

Chlorine Strips: W3155

pH Strips: W3241

Lab SampleID	Client ID	Bottle No.	VOL. ML	Initial Reading (ML)	Final Reading (ML)	Difference	Average
WINKLER 1	WINKLER 1	1	300	0.0	9.8	9.8	9.8
WINKLER 2	WINKLER 2	2	300	10.00	19.8	9.8	9.8

Meter Calibration1: 9.48 Zero DO Reading1: 0.15 mg/L (<=0.2 Criteria)

Barometric Pressure1: 755 mmHg DO Meter BOD fluid reading for winkler comparison: 9.89

After Incubation

Meter Calibration2: 8.48 Zero DO Reading2: 0.15 mg/L (<=0.2 Criteria)

Barometric Pressure2: 750 mmHg

QC BATCH ID: LB137577

INCUBATOR TEMP IN(C): 19.7

INCUBATOR TEMP OUT(C): 19.8

TIME IN: 14:30

TIME OUT: 11:30

DATE IN: 10/17/2025

DATE OUT: 10/22/2025

Lab SampleID	Bottle No.	Check CL	Initial PH	Final PH	Temp °C	Sam Vol. (mL)	D.O.1 Initial	D.O.2 Final	Depletion	BOD Result (mg/L)	Avg Result (mg/L)	Comment
LB137577BL	1	No	6.55	N/A	20.90	300	9.88	9.86	0.02	0.02	0.02	
POLYSEED	1					10	9.85	6.24	3.61	0.72	0.68	
POLYSEED	2					15	9.80	4.79	5.01	0.67		
POLYSEED	3					20	9.77	3.33	6.44	0.64		
GGA	1					6	9.81	5.51	4.3	181	185.67	
GGA	2					6	9.81	5.43	4.38	185		
GGA	3					6	9.80	5.30	4.5	191		
Q3359-02	1	No	9.50	7.40	20.10	5	9.79	1.45	8.34	4596	4596	pH Adjusted
Q3359-02	2					10	9.74	0.39	-	0		
Q3359-02	3					20	9.65	0.24	-	0		
Q3359-02	4					30	9.51	0.20	-	0		
Q3359-02DUP	1	No	9.50	7.40	20.10	5	9.80	1.49	8.31	4578	4578	pH Adjusted
Q3359-02DUP	2					10	9.76	0.34	-	0		
Q3359-02DUP	3					20	9.63	0.19	-	0		
Q3359-02DUP	4					30	9.51	0.17	-	0		
Q3385-04	1	No	8.06	7.21	20.00	5	9.68	8.36	-	0	386	pH Adjusted
Q3385-04	2					10	9.61	7.48	2.13	435		
Q3385-04	3					20	9.57	6.27	3.3	393		
Q3385-04	4					30	9.44	5.46	3.98	330		

NOTE: 2ml POLYSEED added to GGA and all the Samples, but not in Blank.

NOTE (For, CBOD5): 0.16 g Nitrification Inhibitor added to GGA and all the Samples, but not in Blank.

WORKLIST(Hardcopy Internal Chain)

6137577

WorkList Name : bod5-3385

WorkList ID : 192535

Department : Wet-Chemistry

Date : 10-17-2025 13:58:46

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3385-04	EFF-WW	Water	BOD5	Cool 4 deg C	ARDM01	D41	10/17/2025	SM5210 B

Date/Time 10/17/2025 14:10
 Raw Sample Received by: RT LCS
 Raw Sample Relinquished by: JP (COT)

Date/Time 10/17/2025 14:50
 Raw Sample Received by: JP (COT)
 Raw Sample Relinquished by: RT LCS

WORKLIST(Hardcopy Internal Chain)

LB137577

WorkList Name : bod5-10-17

WorkList ID : 192522

Department : Wet-Chemistry

Date : 10-17-2025 10:08:22

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3359-02	Comp	Water	BOD5	Cool 4 deg C	ARAM01	J41	10/15/2025	SM5210 B

Date/Time 10/17/2025 17.10
 Raw Sample Received by: RM CWG
 Raw Sample Relinquished by: RM CWG

Date/Time 10/17/2025 14.50
 Raw Sample Received by: RM CWG
 Raw Sample Relinquished by: RM CWG

LB137604

Test results

Aquakem 7.2AQ1

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Alliance Technical Group

284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : RM

Instrument ID : Konelab

10/21/2025 15:58

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	94.213	0.0	0.082	
ICB1	0.413	0.0	0.001	
CCV1	248.262	0.0	0.215	
CCB1	1.992	0.0	0.002	
RL CHECK	5.008	0.0	0.005	100% (50-150)
PB170155BL	0.398	0.0	0.001	
PB170155BS	93.859	0.0	0.082	
MIDPB170155	238.738	0.0	0.207	95% (90-110)
Q3385-01	0.504	0.0	0.001	
Q3385-01DUP	0.456	0.0	0.001	
Q3385-01MS	45.385	0.0	0.040	
Q3385-01MSD	45.214	0.0	0.040	
CCV2	251.767	0.0	0.218	
CCB2	0.963	0.0	0.001	

N 14
Mean 73.369
SD 99.4112
CV% 135.49

10/21/2025
RM

Aquakem v. 7.2AQ1

Results from time period:

Tue Oct 21 15:29:07 2025

Tue Oct 21 15:41:58 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	0.1297	µg/l	10/21/2025 10:18:49	
5.0PPBCN	A	Total CN	P	5.0315	µg/l	10/21/2025 10:18:50	
10PPBCN	A	Total CN	P	10.2776	µg/l	10/21/2025 10:18:51	
50PPBCN	A	Total CN	P	49.3188	µg/l	10/21/2025 10:18:52	
100PPBCN	A	Total CN	P	99.598	µg/l	10/21/2025 10:18:53	
250PPBCN	A	Total CN	P	251.0035	µg/l	10/21/2025 10:18:54	
500PPBCN	A	Total CN	P	499.6409	µg/l	10/21/2025 10:18:55	
ICV1	S	Total CN	P	94.2126	µg/l	10/21/2025 15:29:08	
ICB1	S	Total CN	P	0.4134	µg/l	10/21/2025 15:29:09	
CCV1	S	Total CN	P	248.2617	µg/l	10/21/2025 15:29:11	
CCB1	S	Total CN	P	1.992	µg/l	10/21/2025 15:29:13	
RL CHECK	S	Total CN	P	5.0081	µg/l	10/21/2025 15:29:17	
PB170155BL	S	Total CN	P	0.3983	µg/l	10/21/2025 15:36:38	
PB170155BS	S	Total CN	P	93.8595	µg/l	10/21/2025 15:36:39	
MIDPB170155	S	Total CN	P	238.7382	µg/l	10/21/2025 15:36:41	
Q3385-01	S	Total CN	P	0.5037	µg/l	10/21/2025 15:36:42	
Q3385-01DUP	S	Total CN	P	0.4557	µg/l	10/21/2025 15:36:44	
Q3385-01MS	S	Total CN	P	45.3849	µg/l	10/21/2025 15:36:46	
Q3385-01MSD	S	Total CN	P	45.2139	µg/l	10/21/2025 15:36:47	
CCV2	S	Total CN	P	251.7668	µg/l	10/21/2025 15:41:55	
CCB2	S	Total CN	P	0.9633	µg/l	10/21/2025 15:41:56	

Calibration results

Aquakem 7.2AQ1

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Alliance Technical Group
284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : RM

Instrument ID : Konelab

10/21/2025 10:21

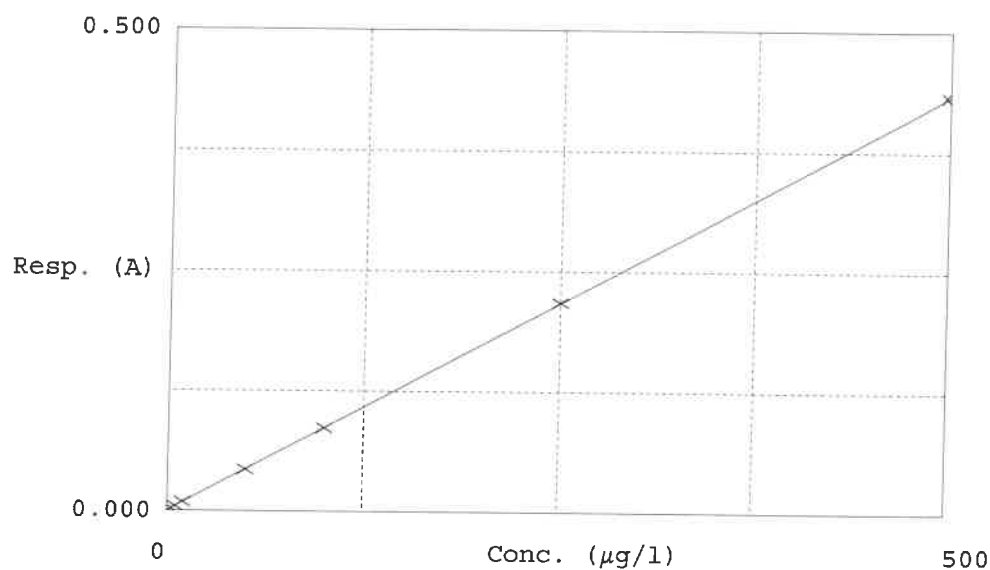
Test Total CN

Accepted 10/21/2025 10:21

Factor 1156
Bias 0

Coeff. of det. 0.999991

Errors



	Calibrator	Response	Calc. con.	Conc.	Re Errors
1	0.0PPBCN	0.001	0.1297	0.0000	-
2	5.0PPBCN	0.005	5.0315	5.0000	0.6
3	10PPBCN	0.009	10.2776	10.0000	2.8
4	50PPBCN	0.043	49.3188	50.0000	-1.4
5	100PPBCN	0.087	99.5980	100.0000	-0.4
6	250PPBCN	0.218	251.0035	250.0000	0.4
7	500PPBCN	0.433	499.6409	500.0000	-0.1

10/21/2025
RM

TOTAL SUSPENDED SOLIDS - SM2540D

SUPERVISOR: Iwona

ANALYST: jignesh

Date: 10/21/2025

Run Number: LB137611

BalanceID: WC SC-5

OvenID: WC OVEN-1

FilterID: 60828725

ThermometerID: WET OVEN#1

TEMP1 IN: 104 °C 10/21/2025 15:00 TEMP1 OUT: 103 °C 10/21/2025 16:00
 TEMP2 IN: 104 °C 10/21/2025 16:30 TEMP2 OUT: 104 °C 10/21/2025 17:30
 TEMP3 IN: 104 °C 10/22/2025 12:40 TEMP3 OUT: 103 °C 10/22/2025 14:20
 TEMP4 IN: 104 °C 10/22/2025 15:00 TEMP4 OUT: 103 °C 10/22/2025 16:30

Dish #	Lab ID	Client ID	Empty Dish Weight (g)	Final Empty Dish Weight (g)	Sample Volume (ml)	1st Empty Dish+Sample weight after 1.5hr drying @103-@105°C (g)	2nd Empty Dish+Sample weight after 1.5hr drying @103-@105°C (g)	Final Empty Dish+Sample weight after 1.5hr drying @103-@105°C (g)	Weight (g)	Result mg/L
1	LB137611BL	LB137611BL	1.5846	1.5846	100	1.5847	1.5847	1.5847	0.0001	1
2	LB137611BS	LB137611BS	1.6032	1.6033	100	1.6565	1.6565	1.6565	0.0532	532
3	Q3385-04	EFF-WW	1.4924	1.4925	800	1.4977	1.4977	1.4977	0.0052	6.5
4	Q3385-04DUP	EFF-WWDUP	1.4872	1.4872	800	1.4922	1.4922	1.4922	0.0050	6.3
5	Q3400-01	FRAC-TANK-0760450	1.4910	1.4911	100	1.7812	1.7812	1.7812	0.2901	2901

A = Sample Volume (ml)
 B = Final Empty Dish Weight (g)
 C = Final Empty Dish + Sample weight after 1.5 hr drying @105°C(g)
 D = Weight (g)

Weight (g) = C - B

Result mg/L = $\frac{D}{A} \times 1000 \times 1000$

WORKLIST(Hardcopy Internal Chain)

LB 137611

WorkList Name : tss q3400 WorkList ID : 192604 Department : Wet-Chemistry Date : 10-22-2025 10:59:06

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3385-04 C-B	EFF-VWV	Water	TSS	Cool 4 deg C	ARDM01	D41	10/17/2025	SM2540 D
Q3400-01 D	FRAC-TANK-0760450	Water	TSS	Cool 4 deg C	ICES02	D31	10/20/2025	SM2540 D

Date/Time 10/22/25 7:12:00
Raw Sample Received by: JB WOI
Raw Sample Relinquished by: CB CSM

Date/Time 10/22/25 7:50:00
Raw Sample Received by: CB CSM
Raw Sample Relinquished by: JB WOI

SOP ID : MSM4500-CN C,E-Cyanide-13

SDG No : N/A

Start Digest Date: 10/21/2025 Time : 10:40 Temp : 123 °C

Matrix : WATER

End Digest Date: 10/21/2025 Time : 12:10 Temp : 126 °C

Pipette ID : WC

Balance ID : N/A

Hood ID : HOOD#1

Digestion tube ID : M5595

Block Thermometer ID : WC CYANIDE

Block ID : MC-1

Filter paper ID : N/A

Prep Technician Signature: 

Weigh By : N/A

pH Meter ID : N/A

Supervisor Signature: 12


Standardized Name	MLS USED	STD REF. # FROM LOG
LCSW	1.0ML	WP113838
MS/MSD SPIKE SOL.	0.40ML	WP113837
PBW	50.0ML	W3112
RL CHECK	50.0ML	WP115271
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	WP112826
51% w/v MgCL2	2.0ML	WP112827
pH Paper 0-14	N/A	W3241
Nitrate/Nitrite Strip	N/A	W3182
Lead Acetate strip	N/A	W3134
KI-starch paper	N/A	W3155
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	2.5ML	WP113837
HIGHSTD	HIGHSTD	N/A	N/A
LOWSTD	LOWSTD	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
10/21/2025 12:25		RM (WC)
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB170155BL	PBW155	50	50	>12	Negative	Negative	Negative	N/A	N/A
PB170155BS	LCS155	50	50	>12	Negative	Negative	Negative	N/A	N/A
Q3385-01DUP	EFF-WWDUP	50	50	>12	Negative	Negative	Negative	N/A	N/A
Q3385-01MS	EFF-WWMS	50	50	>12	Negative	Negative	Negative	N/A	N/A
Q3385-01MSD	EFF-WWMSD	50	50	>12	Negative	Negative	Negative	N/A	N/A
Q3385-01	EFF-WW	50	50	>12	Negative	Negative	Negative	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : cn w q3385 WorkList ID : 192536 Department : Distillation Date : 10-17-2025 15:15:22

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3385-01	EFF-WW	Water	Cyanide	1:1 NaOH to pH >12	ARDM01	D41	10/17/2025	SM4500-CN C

Date/Time 10/21/2025 09:00
Raw Sample Received by: JH CAC
Raw Sample Relinquished by: JH CSM

Date/Time 10/21/2025 11:10
Raw Sample Received by: JH S
Raw Sample Relinquished by: JH CAC

Instrument ID: DO METER

Daily Analysis Runlog For Sequence/QC Batch ID # LB137577

Review By	rubina	Review On	10/22/2025 2:46:49 PM
Supervise By	Iwona	Supervise On	10/22/2025 2:47:41 PM
SubDirectory	LB137577	Test	BOD5
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	WP115239,W3149,WP112832,W3103,W3109,W3248,WP115241,WP115240,WP113878		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB137577BL	LB137577BL	MB	10/17/25 14:30		rubina	OK
2	LB137577BS	LB137577BS	LCS	10/17/25 14:30		rubina	OK
3	Q3359-02	Comp	SAM	10/17/25 14:30		rubina	OK
4	Q3359-02DUP	CompDUP	DUP	10/17/25 14:30		rubina	OK
5	Q3385-04	EFF-WW	SAM	10/17/25 14:30		rubina	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB137604

Review By	rubina	Review On	10/22/2025 8:34:34 AM
Supervise By	Iwona	Supervise On	10/22/2025 9:31:46 AM
SubDirectory	LB137604	Test	Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP115266,WP115267,WP115268,WP115269,WP115270,WP115271,WP115272		
ICV Standard	W3012		
CCV Standard	WP115267		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP113838		
Chk Standard	WP115157,WP114324,WP115274		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	10/21/25 10:18		rubina	OK
2	5.0PPBCN	5.0PPBCN	CAL2	10/21/25 10:18		rubina	OK
3	10PPBCN	10PPBCN	CAL3	10/21/25 10:18		rubina	OK
4	50PPBCN	50PPBCN	CAL4	10/21/25 10:18		rubina	OK
5	100PPBCN	100PPBCN	CAL5	10/21/25 10:18		rubina	OK
6	250PPBCN	250PPBCN	CAL6	10/21/25 10:18		rubina	OK
7	500PPBCN	500PPBCN	CAL7	10/21/25 10:18		rubina	OK
8	ICV1	ICV1	ICV	10/21/25 15:29		rubina	OK
9	ICB1	ICB1	ICB	10/21/25 15:29		rubina	OK
10	CCV1	CCV1	CCV	10/21/25 15:29		rubina	OK
11	CCB1	CCB1	CCB	10/21/25 15:29		rubina	OK
12	RL	RL	LOQ	10/21/25 15:29		rubina	OK
13	PB170155BL	PB170155BL	MB	10/21/25 15:36		rubina	OK
14	PB170155BS	PB170155BS	LCS	10/21/25 15:36		rubina	OK
15	MIDPB170155	MIDPB170155	SAM	10/21/25 15:36		rubina	OK
16	Q3385-01	EFF-WW	SAM	10/21/25 15:36		rubina	OK
17	Q3385-01DUP	EFF-WWDUP	DUP	10/21/25 15:36		rubina	OK
18	Q3385-01MS	EFF-WWMS	MS	10/21/25 15:36		rubina	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB137604

Review By	rubina	Review On	10/22/2025 8:34:34 AM
Supervise By	Iwona	Supervise On	10/22/2025 9:31:46 AM
SubDirectory	LB137604	Test	Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP115266,WP115267,WP115268,WP115269,WP115270,WP115271,WP115272		
ICV Standard	W3012		
CCV Standard	WP115267		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP113838		
Chk Standard	WP115157,WP114324,WP115274		

19	Q3385-01MSD	EFF-WWMSD	MSD	10/21/25 15:36		rubina	OK
20	CCV2	CCV2	CCV	10/21/25 15:41		rubina	OK
21	CCB2	CCB2	CCB	10/21/25 15:41		rubina	OK

Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QC Batch ID # LB137611

Review By	jignesh	Review On	10/22/2025 11:41:10 AM
Supervise By	Iwona	Supervise On	10/22/2025 1:54:23 PM
SubDirectory	LB137611	Test	TSS
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	LB137611BL	LB137611BL	MB	10/22/25 12:40		jignesh	OK
2	LB137611BS	LB137611BS	LCS	10/22/25 12:40		jignesh	OK
3	Q3385-04	EFF-WW	SAM	10/22/25 12:40		jignesh	OK
4	Q3385-04DUP	EFF-WWDUP	DUP	10/22/25 12:40		jignesh	OK
5	Q3400-01	FRAC-TANK-0760450	SAM	10/22/25 12:40		jignesh	OK

Prep Standard - Chemical Standard Summary

Order ID : Q3385

Test : BOD5,Cyanide,TSS

Prepbatch ID : PB170155,

Sequence ID/Qc Batch ID: LB137577, LB137604, LB137611,

Standard ID :

WP112826, WP112827, WP112832, WP113836, WP113837, WP113838, WP113878, WP114324, WP115157, WP115239, WP115240, WP115241, WP115265, WP115266, WP115267, WP115268, WP115269, WP115270, WP115271, WP115272, WP115274,

Chemical ID :

M6041, M6151, W2653, W2654, W2668, W3012, W3019, W3103, W3109, W3112, W3113, W3139, W3149, W3152, W3182, W3203, W3212, W3214, W3224, W3241, W3247, W3248,

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1714	Sulfuric Acid, 50% (v/v)	WP112826	04/25/2025	10/25/2025	Rubina Mughal	None	None	Iwona Zarych
								04/25/2025

FROM 1000.00000ml of M6041 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3214	Magnesium Chloride For Cyanide 2.5M(51%W/V)	WP112827	04/25/2025	10/25/2025	Rubina Mughal	WETCHEM_S CALE_8 (WC SC-7)	None	Iwona Zarych
								04/25/2025

FROM 500.00000ml of W3112 + 510.00000gram of W3152 = Final Quantity: 1000.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1841	Sulfuric Acid, 1N	WP112832	04/25/2025	10/25/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 04/25/2025

FROM 2.80000ml of M6041 + 97.20000ml of W3112 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
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

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3850	Cyanide MS-MSD spiking solution, 5PPM	WP113837	07/08/2025	11/30/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 07/08/2025

FROM 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_FIPETTE_3 (WC)	Iwona Zarych 07/08/2025

FROM 1.00000ml of W3224 + 199.00000ml of WP113836 = Final Quantity: 200.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1571	Sodium hydroxide, 1N	WP113878	07/09/2025	12/31/2025	Iwona Zarych	WETCHEM_SCALE_7 (WC SC-6)	None	Jignesh Parikh 07/09/2025

FROM 4.00000gram of W3113 + 96.00000ml of W3112 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
607	PYRIDINE-BARBITURIC ACID	WP114324	08/19/2025	02/17/2026	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	Glass Pipette-A	Jignesh Parikh 08/19/2025

FROM 145.00000ml of W3112 + 15.00000gram of W3203 + 15.00000ml of M6151 + 75.00000ml of W3019 = Final Quantity: 250.000 ml



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

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
127	BOD Dilution fluid	WP115239	10/17/2025	10/18/2025	Rubina Mughal	None	None	Iwona Zarych 10/17/2025
<u>FROM</u> 18.00000L of W3112 + 3.00000PILLOW of W3247 = Final Quantity: 18.000 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>
129	Glutamic acid-glucose mix for BOD	WP115240	10/17/2025	10/18/2025	Rubina Mughal	WETCHEM_SCALE_7 (WCS-6)	None	Iwona Zarych 10/17/2025
<u>FROM</u> 0.15000gram of W2653 + 0.15000gram of W2654 + 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>
128	polyseed seed control	WP115241	10/17/2025	10/18/2025	Rubina Mughal	None	None	Iwona Zarych 10/17/2025
<u>FROM</u> 1.00000PILLOW of W3212 + 300.00000ml of WP115239 = Final Quantity: 300.000 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	WP115265	10/21/2025	10/22/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
<p>FROM 0.25000ml of W3214 + 49.75000ml of WP113836 = Final Quantity: 50.000 ml (WC)</p>								

<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	WP115266	10/21/2025	10/22/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
(WC)								
<u>FROM</u>	45.00000ml of WP113836 + 5.00000ml of WP115265 = 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	WP115267	10/21/2025	10/22/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
<p>(WC)</p> <p>FROM 2.50000ml of WP115265 + 47.50000ml of WP113836 = Final Quantity: 50.000 ml</p>								

<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	WP115268	10/21/2025	10/22/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 10/24/2025
<u>FROM</u>	1.00000ml of WP115265 + 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	WP115269	10/21/2025	10/22/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
(WC)								
<u>FROM</u>	0.50000ml of WP115265 + 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	WP115270	10/21/2025	10/22/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
(WC)								
<u>FROM</u>	1.00000ml of WP115266 + 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	WP115271	10/21/2025	10/22/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 10/24/2025
<u>FROM</u> 0.50000ml of WP115266 + 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	WP115272	10/21/2025	10/22/2025	Rubina Mughal	None	None	Iwona Zarych
<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	WP115274	10/21/2025	10/22/2025	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	Glass Pipette-A	Iwona Zarych 10/24/2025
<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-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	08/16/2024 / mohan	08/16/2024 / mohan	M6041

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AC156212500 / GLUTAMIC ACID BIOCHEM REG, 250G	A0405990	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2653

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	D16-500 / DEXTROSE ANHYDROUS ACS REAGENT, 500G(New)	186122A	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2654

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 #
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.	4620-32 / MANGANOUS SULFATE SOLUTION-364	2403J02	03/31/2026	04/22/2024 / lwona	04/22/2024 / lwona	W3103

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL04100-4 / Alkaline Iodide Azide, 1 L	1405D67	04/30/2026	05/23/2024 / lwona	05/23/2024 / lwona	W3109

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

CHEMICAL RECEIPT LOG BOOK

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	470112-662 / TEST STRIPES, NITRATE/NITRITE, PK50	436101	04/30/2027	08/05/2025 / lwona	02/26/2025 / lwona	W3182

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	WXBFB3271V	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.	136742-80 / POLYSEED	132409	09/30/2026	05/21/2025 / lwona	05/21/2025 / lwona	W3212

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

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140444 / TEST PAPERS,PH 0-14,.5 SENSI,100PK	10BDH15251	04/30/2029	10/02/2025 / lwona	10/02/2025 / lwona	W3241

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
HACH	1486266 / BOD Nutrient Buffer Pillows, 6 mL concentrate to make 6 L, 50/pk	A5189	08/30/2030	10/06/2025 / lwona	10/06/2025 / lwona	W3247

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



ACROS ORGANICS
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Version 0

Molecular weight 147.13

Molecular formula C5 H9 N O4

CAS No 56-86-0

Linear formula HO2CCH2CH2CH(NH2)CO2H

Flash point (°C)

Certificate of Analysis

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. Acros Organics 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 human 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 following information is the actual analytical results obtained.

Catalog Number	15621	Quality Test / Release Date	13 March 2019
Lot Number	A0405990	Suggested Retest Date	March 2022
Description	L(+)-Glutamic acid, 99%		
Country of Origin	CHINA		
Declaration of Origin	plant		

Origin Comment	The product is made by fermentation of sugar molasses
-----------------------	---

Result Name	Specifications	Test Value
Appearance (Color)	White	White
Appearance (Form)	Powder	Powder
Infrared spectrum	Conforms	Conforms
Titration with NaOH	98.5 to 100.5 % (On dried substance)	99.32 % (On dried substance)
Loss on drying	≤0.5 % (105°C, 3 hrs)	0.002 % (105°C, 3 hrs)
Heavy metals (as Pb)	≤10 ppm	≤10 ppm
Sulfated ash	≤0.1 %	0.08 %
Other amino acids	not detectable	not detectable
Specific optical rotation	+30.5° to +32.5° (20°C, 589 nm) (on dried substance)	+32° (20°C, 589 nm) (on dried substance)
Specific optical rotation	(c=10, 2N HCl)	(c=10, 2N HCl)
Chloride (Cl)	≤200 ppm	≤200 ppm
Iron (Fe)	≤30 ppm	≤10 ppm
Sulfate (SO4)	≤300 ppm	≤200 ppm
Ammonium (NH4)	≤200 ppm	≤200 ppm
Arsenic oxide (As2O3)	≤1 ppm	≤1 ppm



A handwritten signature in black ink, which appears to read "L. Van den Broek".

L. Van den Broek, QA Manager

Issued: 24 January 2020

Acros Organics

ENA23, zone 1, nr 1350, Janssen Pharmaceuticaaan 3a, B-2440 Geel, Belgium

Tel +32 14/57.52.11 - Fax +32 14/59.34.34 Internet: <http://www.acros.com>

1 Reagent Lane, Fair Lawn, NJ 07410, USA Fax 201-796-1329

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	D16	Quality Test / Release Date	03/19/2019
Lot Number	186122A		
Description	DEXTROSE, ANHYDROUS, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Mar/2022
Chemical Origin	Organic - Plant		
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	White, granular powder
TITRATABLE ACID	MEQ/G	<= 0.002	<0.002
STARCH		= PASS TEST	pass test
SPECIFIC ROTATION @ 25 C	DEGREES (+ OR -)	Inclusive Between +52.5 - +53.0	53.0
SULFATE & SULFITE	%	<= 0.005	<0.005
IRON (Fe)	ppm	<= 5	<5
CHLORIDE	%	<= 0.01	<0.01
IGNITION RESIDUE	%	<= 0.02	<0.02
IDENTIFICATION	PASS/FAIL	= PASS TEST	pass test
HEAVY METALS (as Pb)	ppm	<= 5	<5
LOSS ON DRYING @ 105 C	%	<= 0.2	<0.2
INSOLUBLE MATTER	%	<= 0.005	0.002

Jerisa 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.



R: 02/20/20
53

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

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

ICV5-0415

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

ICV6-0400

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

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

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

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

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

W3011
W3012
W3013
W3014
W3015

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

avantor™



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

Certificate of Analysis

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

>>> Continued on page 2 >>>

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

 **avantor™**



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

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

For Laboratory, Research, or Manufacturing Use

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


Jamie Ethier
Vice President Global Quality

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

 **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

 **avantor**™

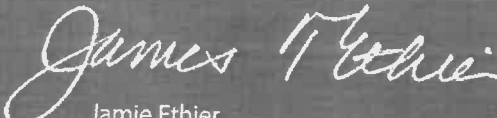


Material No.: 9530-33
Batch No.: 22G2862015

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


Jamie Ethier
Vice President Global Quality

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

(sodium dihydrogen phosphate, monohydrate)



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

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$)	98.0 – 102.0 %	99.5
pH of 5% Solution at 25°C	4.1 – 4.5	4.3
Insoluble Matter	≤ 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

Manganous Sulfate Solution, 364 g/L**Lot Number:** 2403J02**Product Number:** 4620**Manufacture Date:** MAR 15, 2024**Expiration Date:** MAR 2026

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Manganous Sulfate Monohydrate	10034-96-5	Reagent
Sulfuric Acid	7664-93-9	ACS

Test	Specification	Result
Appearance	Pink liquid	Passed
Assay (by Refractive Index)	360-368 g/L	367 g/L

Specification	Reference
Manganous Sulfate Solution	ASTM (D 888 A)
Manganous Sulfate Solution	ASTM (D 888 A)
Manganous Sulfate Solution	APHA (4500-O E)
Manganous Sulfate Solution	APHA (4500-O F)
Manganous Sulfate Solution	APHA (4500-O D)
Manganous Sulfate Solution	APHA (4500-O E)
Manganous Sulfate Solution	APHA (4500-O F)
Manganous Sulfate Solution	APHA (4500-O D)
Manganous Sulfate Solution	APHA (4500-O C)
Manganous Sulfate Solution	APHA (4500-O C)
Manganous Sulfate Solution	EPA (360.2)
Manganous Sulfate Solution	EPA (360.2)

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)
4620-32	1 L natural poly	24 months

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



Jose Pena (03/15/2024)

Operations Manager

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

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Certificate of Analysis

Alkaline-Iodide-Azide, Pomeroy Formulation for Dissolved Oxygen (DO) Analysis

Lot Number: 1405D67

Product Number: 535

Manufacture Date: APR 05, 2024

Expiration Date: APR 2026

This solution is intended for use with samples with high Dissolved Oxygen content (above 15 mg/L) and for samples with high concentrations of organic material.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Iodide	7681-82-5	ACS
Sodium Hydroxide	1310-73-2	ACS
Sodium Azide	26628-22-8	Reagent

Test	Specification	Result
Appearance	Colorless liquid	Passed
Free Iodine	To Pass Test	Passed

Specification	Reference
Alkaline Iodide-Sodium Azide Solution II	ASTM (D 888 A)
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)
535-32	1 L natural poly	24 months

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



Heidi J Green (04/05/2024)
Operations Manager

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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

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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
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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.

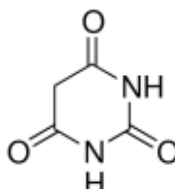
Bala Kumar
Quality Control Manager

Certificate of Analysis

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.



N3212 Received on 5/21/25 by 12



CERTIFICATE OF ANALYSIS

PO BOX 130549 Spring, TX 77393
Phone: (281) 298-9410 Fax: (281) 298-9411

FINISHED PRODUCT, LOT NUMBER, MFG. /EXP DATE:

PolySeed® • Part No. P-110 • Lot 132409 • Mfg. Date: 09/2024 • Exp. Date: 09/2026

FORMULATION:

The formulation for this product contains a range of naturally occurring microorganisms, which are known to be non-pathogenic to man or animals.

VIABLE COUNT, FINAL TEST RESULT:

The product has been fully tested in accordance with Finished Product Specifications and contains a minimum viable count of 4.00×10^9 cfu/g.

GLUCOSE/GLUTAMIC-ACID RESULTS:

Tested results within acceptable range 198 ± 30.5 mg/L (167.5 - 228.5 mg/L). GGA Lot# 43100020 – Average Test Result: 202.1

See www.polyseed.com for details.

SEED CONTROL FACTOR:

Tested results within acceptable range 0.6 – 1.0 see www.polyseed.com for details

SALMONELLA TEST RESULT:

The product has been shown to be Salmonella negative using procedures recommended in the Microbiology Laboratory Guidebook, published by the USDA Food Safety and Inspection Service.

The purpose of this document is to ensure that the Finished Product conforms to the above specification.

Signature: _____

Quality Control Department

Date: 09/13/2024

POLYSEED.Ref.1.19

Revised Jan 24

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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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



An ISO 9001 Certified Company

P.O. Box 389
Loveland, CO 80539
(970) 669-3050

Certificate of Analysis

This is a Component of 1486266 / LOT A5189

PRODUCT: BOD Nutrient Buffer Pillows

PRODUCT NUMBER: 1486227

LOT NUMBER: A5189

MANUFACTURE DATE: 08/04/2025

DATE OF ANALYSIS: 08/18/2025

TEST	SPECIFICATIONS	RESULTS
Ammonia Concentration of a diluted pillow	0.57 to 0.79 ppm	0.570
Calcium Concentration of a diluted pillow	0.93 to 1.29 ppm	1.060
Iron Concentration of a diluted pillow	0.27 to 0.36 ppm	0.331
Magnesium Concentration of a diluted pillow	0.35 to 0.48 ppm	0.430
Phosphorus Concentration of a diluted pillow	7.6 to 10.3 ppm	8.39
pH in a 6 L of DI water	7.1 to 7.6 ph	7.42
Five Day Change in Dissolved Oxygen Concentration	-0.2 to 0.2 ppm	0.10
Sterility	To Pass	Passed

The expiration date is Aug 2030

Certified by: *Scott Als*

Analytical Service Chemist

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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SHIPPING DOCUMENTS

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: ARDMORE INC
ADDRESS: 29 Riverside Ave Bk 14
CITY NEWARK STATE: NJ ZIP: 07104
ATTENTION: Michael Sharphouse
PHONE: 973 481 2406 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: PUSC - MONTHLY
PROJECT NO.: LOCATION:
PROJECT MANAGER:
e-mail:
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: STANDARD 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

VOC
SVOC
BOD
METALS

PRESERVATIVES

COMMENTS

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES										← Specify Preservatives A-HCl D-NaOH B-HNO3 E-ICE C-H2SO4 F-OTHER
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9	
1.	EFF WASTE WATER			X	10/17	12:00pm		X	X								
2.	EFF WASTE WATER		X		10/17	12:06pm				X	X	X					
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

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

RELINQUISHED BY SAMPLER:	DATE/TIME: <u>10/17/25</u>	RECEIVED BY: <u>1400</u>	Conditions of bottles or coolers at receipt: <input type="checkbox"/> COMPLIANT <input type="checkbox"/> NON COMPLIANT <input type="checkbox"/> COOLER TEMP <u>3.9</u> °C
1. <u>Albert Sharphouse</u>		<u>10-17-25</u>	Comments: <u>METALS</u>
RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:	<u>LEAD ZINC</u>
2.		2.	
RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:	
3.		3.	

Page ____ of ____

CLIENT: ☐ Hand Delivered ☐ Other

Shipment Complete
☐ YES ☐ NO

Laboratory Certification

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q3385 ARDM01

Order Date : 10/17/2025 2:02:00 PM

Project Mgr :

Client Name : Ardmore Chemical

Project Name : PVSC Monthly 2025

Report Type : Level 1

Client Contact : Michael Sharphouse

Receive DateTime : 10/17/2025 2:00:00 PM

EDD Type : NONE

Invoice Name : Ardmore Chemical

Purchase Order :

Hard Copy Date :

Invoice Contact : Michael Sharphouse

Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q3385-01	EFF-WW	Water	10/17/2025	12:00	VOC-PP		624.1		10 Bus. Days
Q3385-02	Q3385-01MS	Water	10/17/2025	12:00	VOC-PP		624.1		10 Bus. Days
Q3385-03	Q3385-01MSD	Water	10/17/2025	12:00	VOC-PP		624.1		10 Bus. Days

Relinquished By :

Date / Time : 10/17/25 14:40

Received By :

Date / Time :

Storage Area : VOA Refridgerator Room