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Cover Page

Order ID : Q3098

Project ID : PVSC Monthly 2025

Client : Ardmore Chemical

Lab Sample Number	Client Sample Number
Q3098-01	EFF-WW
Q3098-02	Q3098-01MS
Q3098-03	Q3098-01MSD
Q3098-04	EFF-WW
Q3098-05	Q3098-04MS
Q3098-06	Q3098-04MSD

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

Signature : _____

Date: 9/18/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

Ardmore Chemical
Project Name: PVSC Monthly 2025
Project # N/A
Order ID # Q3098
Test Name: BOD5,Cyanide,TSS

A. Number of Samples and Date of Receipt:
2 Water samples were received on 09/12/2025.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: BOD5,Cyanide,TSS. This data package contains results for BOD5,Cyanide,TSS.

C. Analytical Techniques:
The analysis of TSS was based on method SM2540 D, The analysis of Cyanide was based on method SM4500-CN C,E and The analysis of BOD5 was based on method SM5210 B.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all compounds.
The Duplicate analysis met criteria for all compounds.
The Matrix Spike analysis met criteria for all compounds.
The Matrix Spike Duplicate analysis met criteria for all compounds.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.

E. Additional Comments:

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

Signature_____

Alliance TECHNICAL GROUP

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

DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following " Results Qualifiers" are used:

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

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: **Q3098**

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

QA Review Signature: **KETAN PATEL** **Date:** **09/18/2025**

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LAB CHRONICLE

OrderID:	Q3098	**OrderDate:**	9/12/2025 3:10:00 PM
Client:	Ardmore Chemical	**Project:**	PVSC Monthly 2025
Contact:	Michael Sharphouse	**Location:**	D31,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q3098-01	**EFF-WW**	**WATER**			**09/12/25 14:00**			**09/12/25**
			Cyanide	SM4500-CN C,E		09/16/25	09/16/25 12:23	
Q3098-04	**EFF-WW**	**WATER**			**09/12/25 14:00**			**09/12/25**
			BOD5	SM5210 B			09/12/25 18:30	
			TSS	SM2540 D			09/15/25 11:00	

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TECHNICAL GROUP

SAMPLE DATA

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Report of Analysis

Client:	Ardmore Chemical	Date Collected:	09/12/25 14:00
Project:	PVSC Monthly 2025	Date Received:	09/12/25
Client Sample ID:	EFF-WW	SDG No.:	Q3098
Lab Sample ID:	Q3098-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Cyanide	0.0020	J	1	0.0012	0.0050	mg/L	09/16/25 10:10	09/16/25 12:23	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

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Report of Analysis

Client:	Ardmore Chemical	Date Collected:	09/12/25 14:00
Project:	PVSC Monthly 2025	Date Received:	09/12/25
Client Sample ID:	EFF-WW	SDG No.:	Q3098
Lab Sample ID:	Q3098-04	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
BOD5	863		1	0.20	2.00	mg/L		09/12/25 18:30	SM 5210 B-16
TSS	49.2		1	1.00	4.00	mg/L		09/15/25 11:00	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

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Initial and Continuing Calibration Verification

Client: Ardmore Chemical **SDG No.:** Q3098

Project: PVSC Monthly 2025 **RunNo.:** LB137201

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	**ICV1**						
Cyanide		mg/L	0.096	0.099	97	85-115	09/16/2025
Sample ID:	**CCV1**						
Cyanide		mg/L	0.24	0.25	96	90-110	09/16/2025
Sample ID:	**CCV2**						
Cyanide		mg/L	0.25	0.25	100	90-110	09/16/2025

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Initial and Continuing Calibration Blank Summary

Client:	Ardmore Chemical	**SDG No.:**	Q3098
Project:	PVSC Monthly 2025	**RunNo.:**	LB137201

Analyte		Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID:	**ICB1**							
Cyanide		mg/L	0.0012	0.0025	J	0.0012	0.005	09/16/2025
Sample ID:	**CCB1**							
Cyanide		mg/L	0.0014	0.0025	J	0.0012	0.005	09/16/2025
Sample ID:	**CCB2**							
Cyanide		mg/L	0.0014	0.0025	J	0.0012	0.005	09/16/2025

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Preparation Blank Summary

Client: Ardmore Chemical **SDG No.:** Q3098

Project: PVSC Monthly 2025

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB137180BL							
BOD5	mg/L	< 0.2000	0.2000	U	0.20	2.0	09/12/2025
Sample ID: LB137186BL							
TSS	mg/L	1	2.0000	J	1	4	09/15/2025
Sample ID: PB169643BL							
Cyanide	mg/L	< 0.0025	0.0025	U	0.0012	0.005	09/16/2025

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Matrix Spike Summary

Client: Ardmore Chemical
Project: PVSC Monthly 2025
Client ID: CN-1-4-COMPOSITEMS

SDG No.: Q3098
Sample ID: Q3063-01
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	0.044		0.0026	J	0.04	1	104		09/16/2025

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Matrix Spike Summary

Client: Ardmore Chemical
SDG No.: Q3098
Project: PVSC Monthly 2025
Sample ID: Q3063-01
Client ID: CN-1-4-COMPOSITEMSD
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	0.044		0.0026	J	0.04	1	104		09/16/2025

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Duplicate Sample Summary

Client: Ardmore Chemical
SDG No.: Q3098
Project: PVSC Monthly 2025
Sample ID: Q3063-01
Client ID: CN-1-4-COMPOSITEDUP
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	0.0026	J	0.0026	J	1	0		09/16/2025

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Duplicate Sample Summary

Client: Ardmore Chemical
SDG No.: Q3098
Project: PVSC Monthly 2025
Sample ID: Q3063-01
Client ID: CN-1-4-COMPOSITEMSD
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	0.044		0.044		1	0		09/16/2025

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Duplicate Sample Summary

Client: Ardmore Chemical
Project: PVSC Monthly 2025
Client ID: COMPDUP
SDG No.: Q3098
Sample ID: Q3067-02
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	241		238		1	1.25		09/15/2025

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Duplicate Sample Summary

Client: Ardmore Chemical
SDG No.: Q3098
Project: PVSC Monthly 2025
Sample ID: Q3096-01
Client ID: DRAIN-WATER-TANK-1DUP
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	6500		6360		1	2.22		09/12/2025

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Laboratory Control Sample Summary

Client:	Ardmore Chemical	**SDG No.:**	Q3098
Project:	PVSC Monthly 2025	**Run No.:**	LB137180

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID **LB137180BS**								
BOD5	**mg/L**	**198**	**181**		**91**	**1**	**84.6-115.4**	**09/12/2025**

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Laboratory Control Sample Summary

Client: Ardmore Chemical **SDG No.:** Q3098

Project: PVSC Monthly 2025 **Run No.:** LB137186

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB137186BS								
TSS	mg/L	550	531		96	1	90-110	09/15/2025

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Laboratory Control Sample Summary

Client: Ardmore Chemical
SDG No.: Q3098
Project: PVSC Monthly 2025
Run No.: LB137201

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID PB169643BS								
Cyanide	mg/L	0.1	0.096		96	1	85-115	09/16/2025

RAW DATA

Reviewed By:Iwona
On:9/17/2025 4:18:07 PM
Inst Id :DO METER
LB :LB137180

BOD5 LOG

ANALYST: rubi

SUPERVISOR: Iwona

QC BATCH ID: LB137180

Analysis Date: 09/12/2025

BOD Water: WP114750

MANGANOUS SULFATE SOLUTION: W3103

Starch: W3149

Alkaline Iodide Azide: W3109

Sulfuric acid, 1N: WP112832

Sodium Thiosulfate, 0.025N: W3105

POLYSEED: WP114752

NaOH, 1N: WP113878

GGA: WP114751

IncubatorID: INCUBATOR #3

Chlorine Strips: W3155

GuageID: 0511064

pH Strips: W3215

Zero DO: WP114418

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	9.9	19.7	9.8	9.8

Meter Calibration1: 9.14 Zero DO Reading1: 0.16 mg/L (<=0.2 Criteria)

Barometric Pressure1: 765 mmHg DO Meter BOD fluid reading for winkler comparison: 9.84

After Incubation

Meter Calibration2: 7.84 Zero DO Reading2: 0.15 mg/L (<=0.2 Criteria)

Barometric Pressure2: 760 mmHg

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QC BATCH ID: LB137180

INCUBATOR TEMP IN(C): 20.1

INCUBATOR TEMP OUT(C): 20.0

TIME IN: 18:30

TIME OUT: 14:00

DATE IN: 09/12/2025

DATE OUT: 09/17/2025

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
LB137180BL	1	No	6.69	N/A	20.90	300	9.83	9.81	0.02	0.02	0.02	
POLYSEED	1					10	9.70	6.23	3.47	0.69	0.7	
POLYSEED	2					15	9.64	4.03	5.61	0.75		
POLYSEED	3					20	9.57	2.83	6.74	0.67		
GGA	1					6	9.64	5.41	4.23	176.5	180.83	
GGA	2					6	9.62	5.28	4.34	182		
GGA	3					6	9.62	5.24	4.38	184		
Q3081-01	1	No	6.85	N/A	20.10	5	9.72	8.89	-	0	2962.5	
Q3081-01	2					10	9.68	8.52	-	0		
Q3081-01	3					20	9.59	7.08	2.51	2715		
Q3081-01	4					50	9.28	3.23	6.05	3210		
Q3081-01	5					100	8.95	0.43	-	0		
Q3093-01	1	No	5.01	7.01	20.90	5	9.65	1.07	8.58	472.8	472.8	pH Adjuste
Q3093-01	2					20	9.40	0.15	-	0		
Q3093-01	3					50	9.00	0.08	-	0		
Q3093-01	4					150	7.65	0.07	-	0		
Q3094-04	1	No	4.10	7.11	20.70	5	9.65	8.87	-	0		pH Adjuste
Q3094-04	2					20	9.60	8.57	-	0		
Q3094-04	3					50	9.55	8.02	-	0		
Q3094-04	4					150	9.52	7.94	-	0		
Q3096-01	1	No	5.95	6.94	20.50	5	9.70	8.79	-	0	6502.5	pH Adjuste
Q3096-01	2					10	9.61	7.03	2.58	5640		
Q3096-01	3					20	9.55	3.94	5.61	7365		
Q3096-01	4					50	9.38	0.59	-	0		
Q3096-01	5					100	8.99	0.28	-	0		
Q3096-01DUP	1	No	5.95	6.94	20.50	5	9.71	8.68	-	0	6360	pH Adjuste
Q3096-01DUP	2					10	9.60	7.09	2.51	5430		
Q3096-01DUP	3					20	9.55	3.99	5.56	7290		
Q3096-01DUP	4					50	9.36	0.68	-	0		
Q3096-01DUP	5					100	8.97	0.20	-	0		
Q3098-04	1	No	9.21	7.27	20.80	5	9.59	7.23	2.36	996	863.13	pH Adjuste
Q3098-04	2					10	9.54	6.20	3.34	792		
Q3098-04	3					20	9.50	2.75	6.75	907.5		
Q3098-04	4					30	9.41	1.14	8.27	757		

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)

LB137180

WorkList Name : bod5-09-12 **WorkList ID :** 191850 **Department :** Wet-Chemistry **Date :** 09-12-2025 13:26:04

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3093-01	MH-9-12-25	Water	BOD5	Cool 4 deg C	EURO03	D31	09/12/2025	SM5210 B
Q3081-01	DRAIN-WATER-TANK-1	Water	BOD5	Cool 4 deg C	MAJO01	D11	09/11/2025	SM5210 B
Q3096-01	DRAIN-WATER-TANK-1	Water	BOD5	Cool 4 deg C	MAJO01	D31	09/12/2025	SM5210 B

Date/Time 09/12/2025 16:10
Raw Sample Received by: RM (WC)
Raw Sample Relinquished by: JP (WC)

Date/Time 09/12/2025 18:40
Raw Sample Received by: JP (WC)
Raw Sample Relinquished by: RM (WC)

WORKLIST(Hardcopy Internal Chain)

LD137180

WorkList Name : bod5-09-12- **WorkList ID :** 191851 **Department :** Wet-Chemistry **Date :** 09-12-2025 15:47:52

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3094-04	5674-11-001C	Water	BOD5	Cool 4 deg C	SCIE01	D31	09/11/2025	SM5210 B
Q3098-04	EFF-WW	Water	BOD5	Cool 4 deg C	ARDM01	D31	09/12/2025	SM5210 B

Date/Time 09/12/2025 17.45
Raw Sample Received by: RM(WC)
Raw Sample Relinquished by: PC(WC)

Date/Time 09/12/2025 18.40
Raw Sample Received by: PC(WC)
Raw Sample Relinquished by: RM(WC)

TOTAL SUSPENDED SOLIDS - SM2540D

SUPERVISOR: Iwona
ANALYST: JIGNESH
Date: 09/12/2025
Run Number: LB137186
BalanceID: WC SC-5
OvenID: WC OVEN-1
FilterID: 60828725
ThermometerID: WET OVEN#1

TEMP1 IN:	104 °C	09/12/2025 15:00	**TEMP1 OUT:**	103 °C	09/12/2025 16:00
TEMP2 IN:	104 °C	09/12/2025 16:30	**TEMP2 OUT:**	103 °C	09/12/2025 17:30
TEMP3 IN:	104 °C	09/15/2025 11:00	**TEMP3 OUT:**	103 °C	09/15/2025 12:30
TEMP4 IN:	104 °C	09/15/2025 13:00	**TEMP4 OUT:**	103 °C	09/15/2025 14:35

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	LB137186BL	LB137186BL	1.3523	1.3523	100	1.3524	1.3524	1.3524	0.0001	1
2	LB137186BS	LB137186BS	1.4874	1.4875	100	1.5406	1.5406	1.5406	0.0531	531
3	Q3057-01	DRAIN-WATER-TANK-1	1.5001	1.5002	200	1.5566	1.5567	1.5567	0.0565	282.5
4	Q3067-02	COMP	1.4752	1.4752	100	1.4993	1.4993	1.4993	0.0241	241
5	Q3067-02DUP	COMPDUP	1.4754	1.4754	100	1.4992	1.4992	1.4992	0.0238	238
6	Q3070-01	DRAIN-WATER-TANK-1	1.4816	1.4816	100	1.5056	1.5056	1.5056	0.0240	240
7	Q3081-01	DRAIN-WATER-TANK-1	1.4941	1.4942	500	1.5450	1.5450	1.5450	0.0508	101.6
8	Q3086-01	RW8-SP100-20250911	1.4761	1.4762	1900	1.4763	1.4765	1.4765	0.0003	0.2
9	Q3086-02	RW8-SP303-20250911	1.4889	1.4889	1800	1.4891	1.4892	1.4892	0.0003	0.2
10	Q3093-01	MH-9-12-25	1.4752	1.4752	1000	1.5577	1.5577	1.5577	0.0825	82.5
11	Q3096-01	DRAIN-WATER-TANK-1	1.4862	1.4862	100	1.5353	1.5353	1.5353	0.0491	491
12	Q3098-04	EFF-WW	1.4584	1.4584	1000	1.5076	1.5076	1.5076	0.0492	49.2

TOTAL SUSPENDED SOLIDS - SM2540D

SUPERVISOR: Iwona
ANALYST: JIGNESH
Date: 09/12/2025
Run Number: LB137186
BalanceID: WC SC-5
OvenID: WC OVEN-1
FilterID: 60828725
ThermometerID: WET OVEN#1

TEMP1 IN:	104 °C	09/12/2025 15:00	**TEMP1 OUT:**	103 °C	09/12/2025 16:00
TEMP2 IN:	104 °C	09/12/2025 16:30	**TEMP2 OUT:**	103 °C	09/12/2025 17:30
TEMP3 IN:	104 °C	09/15/2025 11:00	**TEMP3 OUT:**	103 °C	09/15/2025 12:30
TEMP4 IN:	104 °C	09/15/2025 13:00	**TEMP4 OUT:**	103 °C	09/15/2025 14:35

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

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 = $\frac{D}{A} * 1000 * 1000$

LB137186

WORKLIST(Hardcopy Internal Chain)

WorkList Name : tss q3096 **WorkList ID :** 191856 **Department :** Wet-Chemistry **Date :** 09-15-2025 07:54:51

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3057-01 B	DRAIN-WATER-TANK-1	Water	TSS	Cool 4 deg C	MAJO01	J12	09/09/2025	SM2540 D
Q3067-02 A	COMP	Water	TSS	Cool 4 deg C	ARAM01	D31	09/10/2025	SM2540 D
Q3070-01 B	DRAIN-WATER-TANK-1	Water	TSS	Cool 4 deg C	MAJO01	D21	09/10/2025	SM2540 D
Q3081-01 B	DRAIN-WATER-TANK-1	Water	TSS	Cool 4 deg C	MAJO01	D11	09/11/2025	SM2540 D
Q3086-01 B, C	RW8-SP100-20250911	Water	TSS	Cool 4 deg C	TETR06	D31	09/11/2025	SM2540 D
Q3086-02 B, C	RW8-SP303-20250911	Water	TSS	Cool 4 deg C	TETR06	D31	09/11/2025	SM2540 D
Q3093-01 C	MH-9-12-25	Water	TSS	Cool 4 deg C	EURO03	D31	09/12/2025	SM2540 D
Q3096-01 B	DRAIN-WATER-TANK-1	Water	TSS	Cool 4 deg C	MAJO01	D31	09/12/2025	SM2540 D
Q3098-04 B	EFF-WW	Water	TSS	Cool 4 deg C	ARDM01	D31	09/12/2025	SM2540 D

Date/Time 09-15-25 08:10
Raw Sample Received by: JB (WC)
Raw Sample Relinquished by: SM

Date/Time 09/15/25 15:00
Raw Sample Received by: SM
Raw Sample Relinquished by: JB (WC)

LB137

Test results | Aquakem 7.2AQ1 | Page: 1

Alliance Technical Group
284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : RM | Instrument ID : Konelab

9/16/2025 12:33

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	95.696	0.0	0.082	
ICB1	1.232	0.0	0.001	
CCV1	242.323	0.0	0.208	
CCB1	1.359	0.0	0.001	
RL CHECK	5.678	0.0	0.005	113% (50-150)
PB169643BL	1.106	0.0	0.001	09/16/2025 RM
PB169643BS	95.517	0.0	0.082	
MIDPB169643	240.014	0.0	0.206	96% (90-110)
Q3063-01	2.625	0.0	0.002	
Q3063-01DUP	2.616	0.0	0.002	
Q3063-01MS	44.211	0.0	0.038	
Q3063-01MSD	44.281	0.0	0.038	
Q3098-01	2.001	0.0	0.001	
CCV2	247.686	0.0	0.212	
CCB2	1.425	0.0	0.001	

N	15
Mean	68.518
SD	96.1799
CV%	140.37

Aquakem v. 7.2AQ1
Results from time period:
Tue Sep 16 12:08:28 2025
Tue Sep 16 12:29:24 2025

Sample Id	Sam/Ctr/cA	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPBCN	A	Total CN	P	1.264	µg/l	9/16/2025 10:09:03	
5.0PPBCN	A	Total CN	P	6.1311	µg/l	9/16/2025 10:09:04	
10PPBCN	A	Total CN	P	10.6204	µg/l	9/16/2025 10:09:05	
50PPBCN	A	Total CN	P	48.1006	µg/l	9/16/2025 10:09:06	
100PPBCN	A	Total CN	P	98.8616	µg/l	9/16/2025 10:09:07	
250PPBCN	A	Total CN	P	249.2568	µg/l	9/16/2025 10:09:08	
500PPBCN	A	Total CN	P	500.7655	µg/l	9/16/2025 10:09:09	
ICV1	S	Total CN	P	95.6963	µg/l	9/16/2025 12:08:29	
ICB1	S	Total CN	P	1.2318	µg/l	9/16/2025 12:08:30	
CCV1	S	Total CN	P	242.3225	µg/l	9/16/2025 12:08:33	
CCB1	S	Total CN	P	1.3587	µg/l	9/16/2025 12:08:35	
RL CHECK	S	Total CN	P	5.678	µg/l	9/16/2025 12:08:37	
PB169643BL	S	Total CN	P	1.1063	µg/l	9/16/2025 12:16:03	
PB169643BS	S	Total CN	P	95.517	µg/l	9/16/2025 12:16:06	
MIDPB169643	S	Total CN	P	240.0142	µg/l	9/16/2025 12:16:08	
Q3063-01	S	Total CN	P	2.6252	µg/l	9/16/2025 12:16:09	
Q3063-01DUP	S	Total CN	P	2.6163	µg/l	9/16/2025 12:16:12	
Q3063-01MS	S	Total CN	P	44.211	µg/l	9/16/2025 12:23:39	
Q3063-01MSD	S	Total CN	P	44.281	µg/l	9/16/2025 12:23:40	
Q3098-01	S	Total CN	P	2.0005	µg/l	9/16/2025 12:23:41	
CCV2	S	Total CN	P	247.6863	µg/l	9/16/2025 12:29:21	
CCB2	S	Total CN	P	1.4249	µg/l	9/16/2025 12:29:24	

Calibration results Aquakem 7.2AQ1 Page: 1

Alliance Technical Group
284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : RM Instrument ID : Konelab

9/16/2025 10:19

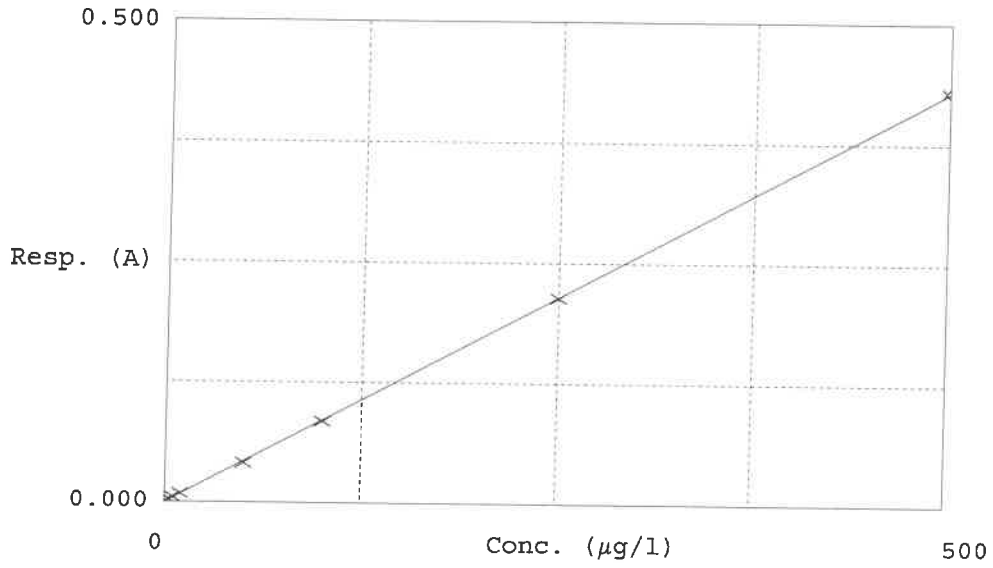
Test Total CN

Accepted 9/16/2025 10:19

Factor 1166
Bias 0

Coeff. of det. 0.999955

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors (2σ)
1	0.0PPBCN	0.001	1.2640	0.0000	22.6
2	5.0PPBCN	0.005	6.1311	5.0000	6.2
3	10PPBCN	0.009	10.6204	10.0000	-3.8
4	50PPBCN	0.041	48.1006	50.0000	-1.1
5	100PPBCN	0.084	98.8616	100.0000	-0.3
6	250PPBCN	0.214	249.2568	250.0000	6.2
7	500PPBCN	0.429	500.7655	500.0000	

09/16/2025
RM

Alliance TECHNICAL GROUP

Water Cyanide Preparation Sheet

PB169643

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

SDG No : N/A

Start Digest Date: 09/16/2025 **Time :** 10:10 **Temp :** 123 °C

Matrix : WATER

End Digest Date: 09/16/2025 **Time :** 11:40 **Temp :** 127 °C

Pippete ID : WC

Balance ID : N/A

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:** TB

Weigh By : N/A **pH Meter ID :** N/A **Supervisor Signature:** 12

Standared 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	WP114781
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	W3215
Nitrate/Nitrite Strip	N/A	W3182
Lead Acetate strip	N/A	W3134
KI-starch paper	N/A	W3155
0.4N Sulfamic Acid	5.ML	WP112829
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
09/16/2025 11.50	TB / WC	RH (WC)
	Preparation Group	**Analysis Group**

Alliance TECHNICAL GROUP

Water Cyanide Preparation Sheet

PB169643

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB169643BL	PBW643	50	50	>12	Negative	Negative	Negative	N/A	N/A
PB169643BS	LCS643	50	50	>12	Negative	Negative	Negative	N/A	N/A
Q3063-01DUP	CN-1-4-COMPOSITEDUP	50	50	>12	Negative	Negative	Positive	N/A	N/A
Q3063-01MS	CN-1-4-COMPOSITEMS	50	50	>12	Negative	Negative	Positive	N/A	N/A
Q3063-01MSD	CN-1-4-COMPOSITEMSD	50	50	>12	Negative	Negative	Positive	N/A	N/A
Q3063-01	CN-1-4-COMPOSITE	50	50	>12	Negative	Negative	Positive	N/A	N/A
Q3098-01	EFF-WW	50	50	>12	Negative	Negative	Negative	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : cn w q3098 **WorkList ID :** 191857 **Department :** Distillation **Date :** 09-15-2025 07:55:37

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3063-01 A	CN-1-4-COMPOSITE	Water	Cyanide	1:1 NaOH to pH >12	ELEG01	D31	09/11/2025	SM4500-CN C
Q3098-01 D	EFF-WW	Water	Cyanide	1:1 NaOH to pH >12	ARDM01	D31	09/12/2025	SM4500-CN C

Date/Time 09/16/2025 07:35
Raw Sample Received by: [signature]
Raw Sample Relinquished by: [signature]

Date/Time 09/16/2025 10:45
Raw Sample Received by: [signature]
Raw Sample Relinquished by: [signature]

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

Instrument ID: DO METER

Daily Analysis Runlog For Sequence/QCBatch ID # LB137180

Review By	rubina	Review On	9/17/2025 4:17:55 PM
Supervise By	Iwona	Supervise On	9/17/2025 4:18:07 PM
SubDirectory	LB137180	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	WP114750,W3149,WP112832,W3103,W3109,W3105,WP114752,WP114751,WP113878

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB137180BL	LB137180BL	MB	09/12/25 18:30		rubina	OK
2	LB137180BS	LB137180BS	LCS	09/12/25 18:30		rubina	OK
3	Q3081-01	DRAIN-WATER-TANK	SAM	09/12/25 18:30		rubina	OK
4	Q3093-01	MH-9-12-25	SAM	09/12/25 18:30		rubina	OK
5	Q3094-04	5674-11-001C	SAM	09/12/25 18:30		rubina	OK
6	Q3096-01	DRAIN-WATER-TANK	SAM	09/12/25 18:30		rubina	OK
7	Q3096-01DUP	DRAIN-WATER-TANK	DUP	09/12/25 18:30		rubina	OK
8	Q3098-04	EFF-WW	SAM	09/12/25 18:30		rubina	OK

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Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QCBatch ID # LB137186

Review By	JIGNESH	Review On	9/16/2025 2:49:11 PM
Supervise By	Iwona	Supervise On	9/16/2025 2:55:08 PM
SubDirectory	LB137186	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	LB137186BL	LB137186BL	MB	09/15/25 11:00		JIGNESH	OK
2	LB137186BS	LB137186BS	LCS	09/15/25 11:00	55 mg w3186 + 100 ml w3112	JIGNESH	OK
3	Q3057-01	DRAIN-WATER-TANK	SAM	09/15/25 11:00		JIGNESH	OK
4	Q3067-02	COMP	SAM	09/15/25 11:00		JIGNESH	OK
5	Q3067-02DUP	COMPDUP	DUP	09/15/25 11:00		JIGNESH	OK
6	Q3070-01	DRAIN-WATER-TANK	SAM	09/15/25 11:00		JIGNESH	OK
7	Q3081-01	DRAIN-WATER-TANK	SAM	09/15/25 11:00		JIGNESH	OK
8	Q3086-01	RW8-SP100-2025091	SAM	09/15/25 11:00		JIGNESH	OK
9	Q3086-02	RW8-SP303-2025091	SAM	09/15/25 11:00		JIGNESH	OK
10	Q3093-01	MH-9-12-25	SAM	09/15/25 11:00		JIGNESH	OK
11	Q3096-01	DRAIN-WATER-TANK	SAM	09/15/25 11:00		JIGNESH	OK
12	Q3098-04	EFF-WW	SAM	09/15/25 11:00		JIGNESH	OK

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

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB137201

Review By	rubina	Review On	9/16/2025 3:44:05 PM
Supervise By	Iwona	Supervise On	9/16/2025 3:44:52 PM
SubDirectory	LB137201	Test	Cyanide

STD. NAME	STD REF.#
ICAL Standard	WP114776,WP114777,WP114778,WP114779,WP114780,WP114781,WP114782
ICV Standard	W3012
CCV Standard	WP114777
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP113838
Chk Standard	WP112643,WP114324,WP114783

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	09/16/25 10:09		rubina	OK
2	5.0PPBCN	5.0PPBCN	CAL2	09/16/25 10:09		rubina	OK
3	10PPBCN	10PPBCN	CAL3	09/16/25 10:09		rubina	OK
4	50PPBCN	50PPBCN	CAL4	09/16/25 10:09		rubina	OK
5	100PPBCN	100PPBCN	CAL5	09/16/25 10:09		rubina	OK
6	250PPBCN	250PPBCN	CAL6	09/16/25 10:09		rubina	OK
7	500PPBCN	500PPBCN	CAL7	09/16/25 10:09		rubina	OK
8	ICV1	ICV1	ICV	09/16/25 12:08		rubina	OK
9	ICB1	ICB1	ICB	09/16/25 12:08		rubina	OK
10	CCV1	CCV1	CCV	09/16/25 12:08		rubina	OK
11	CCB1	CCB1	CCB	09/16/25 12:08		rubina	OK
12	RL	RL	LOQ	09/16/25 12:08		rubina	OK
13	PB169643BL	PB169643BL	MB	09/16/25 12:16		rubina	OK
14	PB169643BS	PB169643BS	LCS	09/16/25 12:16		rubina	OK
15	MIDPB169643	MIDPB169643	SAM	09/16/25 12:16		rubina	OK
16	Q3063-01	CN-1-4-COMPOSITE	SAM	09/16/25 12:16		rubina	OK
17	Q3063-01DUP	CN-1-4-COMPOSITE	DUP	09/16/25 12:16		rubina	OK
18	Q3063-01MS	CN-1-4-COMPOSITE	MS	09/16/25 12:23		rubina	OK

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

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB137201

Review By	rubina	Review On	9/16/2025 3:44:05 PM
Supervise By	Iwona	Supervise On	9/16/2025 3:44:52 PM
SubDirectory	LB137201	Test	Cyanide

STD. NAME	STD REF.#
ICAL Standard	WP114776,WP114777,WP114778,WP114779,WP114780,WP114781,WP114782
ICV Standard	W3012
CCV Standard	WP114777
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP113838
Chk Standard	WP112643,WP114324,WP114783

19	Q3063-01MSD	CN-1-4-COMPOSITE	MSD	09/16/25 12:23		rubina	OK
20	Q3098-01	EFF-WW	SAM	09/16/25 12:23		rubina	OK
21	CCV2	CCV2	CCV	09/16/25 12:29		rubina	OK
22	CCB2	CCB2	CCB	09/16/25 12:29		rubina	OK

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

Prep Standard - Chemical Standard Summary

Order ID : Q3098

Test : BOD5,Cyanide,TSS

Prepbatch ID : PB169643,

Sequence ID/Qc Batch ID: LB137180,LB137186,LB137201,

Standard ID :
WP112643,WP112826,WP112827,WP112832,WP113836,WP113837,WP113838,WP113878,WP114324,WP114750,WP114751,WP114752,WP114775,WP114776,WP114777,WP114778,WP114779,WP114780,WP114781,WP114782,WP114783,

Chemical ID :
M6041,M6151,W2653,W2654,W2668,W3012,W3019,W3103,W3105,W3109,W3112,W3113,W3139,W3149,W3152,W3182,W3203,W3212,W3214,W3215,W3224,W3233,

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Fax : 908 789 8922

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
539	CN BUFFER	WP112643	04/09/2025	10/09/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 04/09/2025

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

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

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Fax : 908 789 8922

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3214	Magnesium Chloride For Cyanide 2.5M(51%W/V)	WP112827	04/25/2025	10/25/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCSC-7)	None	Iwona Zarych 04/25/2025

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1841	Sulfuric Acid, 1N	WP112832	04/25/2025	10/25/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 04/25/2025

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

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Fax : 908 789 8922

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
11	Sodium hydroxide absorbing solution 0.25 N	WP113836	07/08/2025	12/31/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCSC-7)	None	Iwona Zarych 07/08/2025

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3850	Cyanide MS-MSD spiking solution, 5PPM	WP113837	07/08/2025	11/30/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 07/08/2025

FROM 1.00000ml of W3214 + 199.00000ml of WP113836 = Final Quantity: 200.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

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

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

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

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

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
607	PYRIDINE-BARBITURIC ACID	WP114324	08/19/2025	02/17/2026	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
127	BOD Dilution fluid	WP114750	09/12/2025	09/13/2025	Rubina Mughal	None	None	Jignesh Parikh 09/12/2025

FROM 18.00000L of W3112 + 3.00000PILLOW of W3233 = Final Quantity: 18.000 L

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Fax : 908 789 8922

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
129	Glutamic acid-glucose mix for BOD	WP114751	09/12/2025	09/13/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 09/12/2025

FROM 0.15000gram of W2653 + 0.15000gram of W2654 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
128	polyseed seed control	WP114752	09/12/2025	09/13/2025	Rubina Mughal	None	None	Jignesh Parikh 09/12/2025

FROM 1.00000PILLOW of W3212 + 300.00000ml of WP114750 = Final Quantity: 300.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3456	Cyanide Intermediate Working Std, 5PPM	WP114775	09/16/2025	09/17/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 09/17/2025

FROM 0.25000ml of W3214 + 49.75000ml of WP113836 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
4	Calibation standard 500 ppb	WP114776	09/16/2025	09/17/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 09/17/2025

FROM 45.00000ml of WP113836 + 5.00000ml of WP114775 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3761	Calibration-CCV CN Standard 250 ppb	WP114777	09/16/2025	09/17/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 09/17/2025

FROM 2.50000ml of WP114775 + 47.50000ml of WP113836 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
6	Calibration Standard 100 ppb	WP114778	09/16/2025	09/17/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 09/17/2025

FROM 1.00000ml of WP114775 + 49.00000ml of WP113836 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
7	Calibration Standard 50 ppb	WP114779	09/16/2025	09/17/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 09/17/2025

FROM 0.50000ml of WP114775 + 49.50000ml of WP113836 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
8	Calibration Standard 10 ppb	WP114780	09/16/2025	09/17/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 09/17/2025

FROM 1.00000ml of WP114776 + 49.00000ml of WP113836 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
9	Calibration Standard 5 ppb	WP114781	09/16/2025	09/17/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 09/17/2025

FROM 0.50000ml of WP114776 + 49.50000ml of WP113836 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
167	0 ppb CN calibration std	WP114782	09/16/2025	09/17/2025	Rubina Mughal	None	None	Iwona Zarych 09/17/2025

FROM 50.00000ml of WP113836 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1582	Chloramine T solution, 0.014M	WP114783	09/16/2025	09/17/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	Glass Pipette-A	Iwona Zarych 09/17/2025

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

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	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, CRYS, ACS, 2.5 KG	0000225799	12/03/2025	04/05/2021 / Alexander	02/10/2020 / apatel	W2668

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

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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 / Iwona	04/03/2023 / Iwona	W3019

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	4620-32 / MANGANOUS SULFATE SOLUTION-364	2403J02	03/31/2026	04/22/2024 / Iwona	04/22/2024 / Iwona	W3103

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL69870-8 / SODIUM THIOSULFATE,0.025N,4LITRE	4403S13	09/30/2025	04/22/2024 / Iwona	04/22/2024 / Iwona	W3105

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL04100-4 / Alkaline Iodide Azide, 1 L	1405D67	04/30/2026	05/23/2024 / Iwona	05/23/2024 / Iwona	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 / Iwona	07/03/2024 / Iwona	W3112

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

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CHEMICAL RECEIPT LOG BOOK

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	01237-10KG / Megnasium 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.	470112-662 / TEST STRIPES, NITRATE/NITRITE, PK50	436101	04/30/2027	08/05/2025 / Iwona	02/26/2025 / Iwona	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	WXBF3271V	05/16/2029	04/21/2025 / Iwona	04/21/2025 / Iwona	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 / Iwona	05/21/2025 / Iwona	W3212

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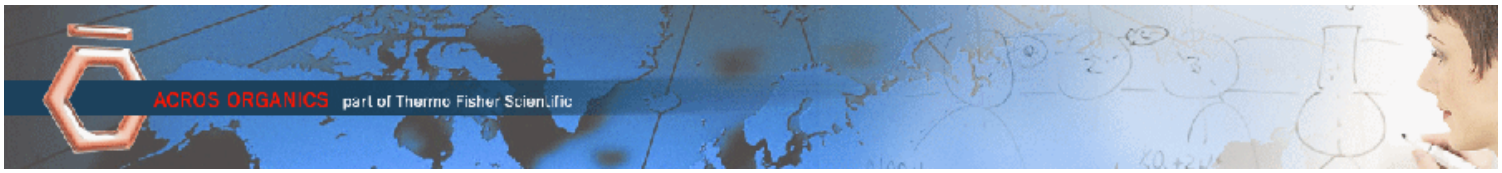
CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	RC2543-4 / CYANIDE STD 1000PPM 4OZ	1505H73	11/30/2025	05/21/2025 / Iwona	05/21/2025 / Iwona	W3214

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	10D3242	12/31/2028	06/09/2025 / Iwona	06/09/2025 / Iwona	W3215

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 / Iwona	07/07/2025 / Iwona	W3224

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	A5105	05/31/2030	08/14/2025 / rubina	07/21/2025 / Iwona	W3233



ACROS ORGANICS

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 responsiblity 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

L. Van den Broek, QA Manager Issued: 24 January 2020

Acros Organics
ENA23, zone 1, nr 1350, Janssen Pharmaceuticalaan 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

Sigma-Aldrich.

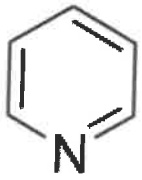
W3019
Rec 4/3/23

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

Certificate of Analysis

Product Name:
Pyridine - anhydrous, 99.8%

Product Number:	**270970**
Batch Number:	**SHBQ2113**
Brand:	SIAL
CAS Number:	110-86-1
MDL Number:	MFCD00011732
Formula:	C5H5N
Formula Weight:	79.10 g/mol
Quality Release Date:	15 DEC 2022



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

Larry Coers, Director
Quality Control
Sheboygan Falls, WI US

ThermoFisher SCIENTIFIC

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

Teresa 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.

W3011
W3012
W3013
W3014
W3015

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

ICV5-0415 For the cold vapor analysis of mercury by AA: dilute the ICV5 concentrate 100-fold with 2% (v/v) nitric acid; pipet 1 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide: dilute the ICV6 concentrate 100-fold with Type II water; pipet 1 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

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

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

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

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

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

M 6041-46
MS

avantor™ | J.T.Baker®

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

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H_2SO_4)	95.0 – 98.0 %	96.1 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Substances Reducing Permanganate (as SO2)	≤ 2 ppm	< 2 ppm
Ammonium (NH_4)	≤ 1 ppm	1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO_3)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO_4)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities – Aluminum (Al)	≤ 30.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	8.5 ppb
Trace Impurities – Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	0.5 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	1.3 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 ppb	0.8 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Nickel (Ni)	≤ 2.0 ppb	0.3 ppb
Trace Impurities – Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se)	≤ 50.0 ppb	< 0.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	31.5 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

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

avantor™ | J.T.Baker®

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

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

For Laboratory,Research,or Manufacturing Use

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

James T Ethier

Jamie Ethier
Vice President Global Quality

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

avantor™ | J.T.Baker®

M6151

R→ 1/15/25

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

avantor™ | J.T.Baker®

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™ | J.T.Baker®

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

James T Ethier

Jamie Ethier
Vice President Global Quality

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

(sodium dihydrogen phosphate, monohydrate)

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

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($NaH_2PO_4 \cdot H_2O$)	98.0 - 102.0 %	99.5
pH of 5% Solution at 25°C	4.1 - 4.5	4.3
Insoluble Matter	<= 0.01 %	< 0.01
Chloride (Cl)	<= 5 ppm	< 5
ACS - Sulfate (SO_4)	<= 0.003 %	< 0.003
Calcium (Ca)	<= 0.005 %	<0.005
Potassium (K)	<= 0.01 %	< 0.01
Heavy Metals (as Pb)	<= 0.001 %	< 0.001
Trace Impurities - Iron (Fe)	<= 0.001 %	< 0.001

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

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

Jamie Ethier
Vice President Global Quality

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

RICCA CHEMICAL COMPANY®
W3103 Received on 4/22/24 by IZ

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

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."

RICCA CHEMICAL COMPANY®

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

W3105 Received on 4/22/24 by IZ

Certificate of Analysis

Sodium Thiosulfate, 0.0250 Normal (N/40)

Lot Number: 4403S13 **Product Number:** 7900

Manufacture Date: MAR 29, 2024
Expiration Date: SEP 2025

This product is specially formulated to increase its stability. A preservative is added to prevent bacterial contamination. However, all Sodium Thiosulfate solutions are subject to slow chemical deterioration and should be restandardized periodically.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Thiosulfate Pentahydrate	10102-17-7	ACS
Organic Preservative	Proprietary	
Sodium Carbonate	497-19-8	ACS

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

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

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

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

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

Paul Brandon (03/29/2024)
Production Manager
This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

RICCA CHEMICAL COMPANY®

448 West Fork Dr
Arlington, TX 76012
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

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

Certificate of Analysis

Sodium Hydroxide (Pellets)

Material: 0583

Grade: ACS GRADE

Batch Number: 23B1556310

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

Pellets

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

Storage: Room Temperature

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

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

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

Additional Information

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

Product meets analytical specifications of the grades listed.

Certificate of Analysis

Sodium Hydroxide (Pellets)

Material: **0583**

Grade: **ACS GRADE**

Batch Number: **23B1556310**

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

Pellets

Spec Set: 0583ACS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

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

Additional Information

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

Product meets analytical specifications of the grades listed.

ThermoFisher SCIENTIFIC

Certificate of Analysis

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

RICCA CHEMICAL COMPANY®

W3149 Received on 10/16/24 by IZ

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

Certificate of Analysis

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

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

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

This product is Mercury-free.

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

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

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

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

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

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

Paul Brandon (08/28/2024)
Production Manager

W3152 Received on 11/25/24 by IZ

Chem-Impex International, Inc.

Tel: (630) 766-2112
Fax: (630) 766-2218
E-mail: sales@chemimpex.com
Web site: www.chemimpex.com
Shipping and Correspondence:
935 Dillon Drive
Wood Dale, IL 60191
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•$6H_2O$
CAS Number	7791-18-6
Molecular Formula	$MgCl_2$•$6H_2O$
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

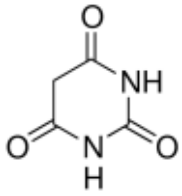
Bala Kumar
Quality Control Manager

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

Certificate of Analysis

Product Name:
Barbituric acid - ReagentPlus® , 99%

Product Number:	**185698**
Batch Number:	**WXBF3271V**
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 %) VPCT	≥ 98 %	100 %

Kang Chen
Quality Manager
Wuxi , China CN

N3212 Received on 5/21/25 by 12

POLYSEED®

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: _____ **Date**: 09/13/2024

Quality Control Department

POLYSEED.Ref.1.19 Revised Jan 24

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International Laboratory Supply

ISO 9002
DNV
DNV Certification, Inc.
REGISTERED FIRM

RICCA CHEMICAL COMPANY®

W3214 Received on 5/21/25 by IZ

448 West Fork Dr
Arlington, TX 76012
http://www.riccachemical.com
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customerservice@riccachemical.com

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 certifiec traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.
Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard. Restandardize weekly if extreme accuracy is required.

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

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

Certificate of Analysis

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

Product Code: **LC13545**

Manufacture Date: 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 or g	1L or 1kg	2.5L/2.5L Coated/6x2.5L/6x2.5L Coated	4L	20L	10L	125mL	25g	100g	20x20mL	4x4L	200L	24x6mL	48x6mL

Michael Monteleone

Michael Monteleone
Chemistry Supervisor - Quality Control
2025070315:30:45ahoffman-0-0

ISO9001:2015 Registration #0306-01

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

An ISO 9001 Certified Company

Certificate of Analysis

This is a Component of 1486266 / LOT A5105

PRODUCT: BOD Nutrient Buffer Pillows

PRODUCT NUMBER: 1486227

LOT NUMBER: A5105

MANUFACTURE DATE: 05/13/2025

DATE OF ANALYSIS: 05/27/2025

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	0.980
Iron Concentration of a diluted pillow	0.27 to 0.36 ppm	0.283
Magnesium Concentration of a diluted pillow	0.35 to 0.48 ppm	0.360
Phosphorus Concentration of a diluted pillow	7.6 to 10.3 ppm	8.11
pH in a 6 L of DI water	7.1 to 7.6 ph	7.31
Five Day Change in Dissolved Oxygen Concentration	-0.2 to 0.2 ppm	0.03
Sterility	To Pass	Passed

The expiration date is May 2030

Certified by: Scott Als

Analytical Services Chemist

SHIPPING DOCUMENTS

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

ALLIANCE PROJECT NO.
QUOTE NO. Q3098
COC Number 2045908

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: ARDMORE
ADDRESS: 29 RIVERSIDE AVE BLG #14
CITY Newark NJ STATE: ZIP: 07104
ATTENTION: MIKE SHAMPHOUSE
PHONE: 973 481 2406 FAX:

CLIENT PROJECT INFORMATION

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

CLIENT BILLING INFORMATION

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

DATA TURNAROUND INFORMATION

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

DATA DELIVERABLE INFORMATION

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

ANALYSIS

1: VOA 2: CN 3: SVOA 4: BOD/TSS 5: METALS 6: 7: 8: 9:

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1.	WASTE WATER	WW		X	9/12/25	2:00 PM		X	X								
2.	WASTE WATER	WW	X		9/12/25	2:00 PM				X	X	X					
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

← Specify Preservatives
A-HCl D-NaOH
B-HN03 E-ICE
C-H2SO4 F-OTHER

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

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. Mike Shamphouse	9/12/25 2:00 PM	1.
2.		2.
3.		3.

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 4.9°C °C
Comments: METALS LEAD, ZINC, COPPER, MERCURY CADMIUM, NICKEL

Page _____ of

CLIENT: ☐ Hand Delivered ☐ Other

Shipment Complete ☐ YES ☐ NO

WHITE - ALLIANCE COPY FOR RETURN TO CLIENT YELLOW - ALLIANCE COPY PINK - SAMPLER COPY

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

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

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q3098 ARDM01
Client Name : Ardmore Chemical
Client Contact : Michael Sharphouse
Invoice Name : Ardmore Chemical
Invoice Contact : Michael Sharphouse

Order Date : 9/12/2025 3:10:00 PM
Project Name : PVSC Monthly 2025
Receive DateTime : 9/12/2025 3:00:00 PM
Purchase Order :

Project Mgr :
Report Type : Level 1
EDD Type : NONE
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q3098-01	EFF-WW	Water	09/12/2025	14:00					
					VOC-PP		624.1		10 Bus. Days
Q3098-02	Q3098-01MS	Water	09/12/2025	14:00					
					VOC-PP		624.1		10 Bus. Days
Q3098-03	Q3098-01MSD	Water	09/12/2025	14:00					
					VOC-PP		624.1		10 Bus. Days

Relinguished By :
Date / Time : 9/12/25 1525

Received By :
Date / Time : 09/12/25 15:25

Rec'd 5

Storage Area : VOA Refridgerator Room