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

Alliance TECHNICAL GROUP

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

LAB CHRONICLE

OrderID:	Q3701	**OrderDate:**	11/20/2025 4:36:00 PM
Client:	Holland Manufacturing Co.	**Project:**	Pre Treatment Plant 2025
Contact:	Todd Holland	**Location:**	D41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q3701-01	**EFFLUENT**	**WATER**			**11/20/25 13:30**			**11/20/25**
			Ammonia	SM4500-NH3		11/25/25	11/25/25 11:43	
			BOD5	SM5210 B			11/21/25 15:20	
			Oil and Grease	1664A			11/25/25 11:30	
			Phosphorus-Ortho	SM4500-P E			11/21/25 12:07	
			Phosphorus-Total	365.3		11/21/25	11/21/25 13:29	
			TSS	SM2540 D			11/21/25 15:30	
Q3701-01DL	**EFFLUENTDL**	**WATER**			**11/20/25 13:30**			**11/20/25**
			Ammonia	SM4500-NH3		11/25/25	11/25/25 12:16	
Q3701-04	**AERATION**	**WATER**			**11/20/25 13:30**			**11/20/25**
			TSS	SM2540 D			11/21/25 15:30	
Q3701-05	**INFLUENT**	**WATER**			**11/20/25 13:30**			**11/20/25**
			Ammonia	SM4500-NH3		11/25/25	11/25/25 11:50	
			BOD5	SM5210 B			11/21/25 15:20	

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

LAB CHRONICLE

Q3701-05DL	**INFLUENTDL**	**WATER**			**11/20/25 13:30**			**11/20/25**
			Ammonia	SM4500-NH3		11/25/25	11/25/25 12:16	

Alliance
TECHNICAL GROUP

SAMPLE DATA

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

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	11/20/25 13:30
Project:	Pre Treatment Plant 2025	Date Received:	11/20/25
Client Sample ID:	EFFLUENT	SDG No.:	Q3701
Lab Sample ID:	Q3701-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	462	OR	1	1.50	5.00	mg/L	11/25/25 09:10	11/25/25 11:43	SM 4500-NH3 B plus G-21
BOD5	15300		1	0.20	2.00	mg/L		11/21/25 15:20	SM 5210 B-16
Oil and Grease	32.9		1	0.29	5.00	mg/L		11/25/25 11:30	1664A
Orthophosphate as P	0.033	J	1	0.0040	0.050	mg/L		11/21/25 12:07	SM 4500-P E-21
Phosphorus, Total	0.081		1	0.0050	0.050	mg/L	11/21/25 10:20	11/21/25 13:29	365.3
TSS	1040		1	1.00	4.00	mg/L		11/21/25 15:30	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

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

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	11/20/25 13:30
Project:	Pre Treatment Plant 2025	Date Received:	11/20/25
Client Sample ID:	EFFLUENTDL	SDG No.:	Q3701
Lab Sample ID:	Q3701-01DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	403	D	10	15.0	50.0	mg/L	11/25/25 09:10	11/25/25 12:16	SM 4500-NH3 B plus G-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

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

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	11/20/25 13:30
Project:	Pre Treatment Plant 2025	Date Received:	11/20/25
Client Sample ID:	AERATION	SDG No.:	Q3701
Lab Sample ID:	Q3701-04	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
TSS	1530		1	1.00	4.00	mg/L		11/21/25 15:30	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

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

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	11/20/25 13:30
Project:	Pre Treatment Plant 2025	Date Received:	11/20/25
Client Sample ID:	INFLUENT	SDG No.:	Q3701
Lab Sample ID:	Q3701-05	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	318	OR	1	1.50	5.00	mg/L	11/25/25 09:10	11/25/25 11:50	SM 4500-NH3 B plus G-21
BOD5	20400		1	0.20	2.00	mg/L		11/21/25 15:20	SM 5210 B-16

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

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

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	11/20/25 13:30
Project:	Pre Treatment Plant 2025	Date Received:	11/20/25
Client Sample ID:	INFLUENTDL	SDG No.:	Q3701
Lab Sample ID:	Q3701-05DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	276	D	5	7.50	25.0	mg/L	11/25/25 09:10	11/25/25 12:16	SM 4500-NH3 B plus G-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

QC RESULT SUMMARY

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

Initial and Continuing Calibration Verification

Client: Holland Manufacturing Co. **SDG No.:** Q3701

Project: Pre Treatment Plant 2025 **RunNo.:** LB138011

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV						
Orthophosphate as P	mg/L	0.483	0.50	97	90-110	11/21/2025
Sample ID: CCV1						
Orthophosphate as P	mg/L	0.517	0.5	103	90-110	11/21/2025
Sample ID: CCV2						
Orthophosphate as P	mg/L	0.508	0.5	102	90-110	11/21/2025

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

Initial and Continuing Calibration Verification

Client:	Holland Manufacturing Co.	**SDG No.:**	Q3701
Project:	Pre Treatment Plant 2025	**RunNo.:**	LB138013

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV						
Phosphorus, Total	mg/L	0.494	0.50	99	90-110	11/21/2025
Sample ID: CCV1						
Phosphorus, Total	mg/L	0.526	0.50	105	90-110	11/21/2025
Sample ID: CCV2						
Phosphorus, Total	mg/L	0.517	0.50	103	90-110	11/21/2025

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

Initial and Continuing Calibration Verification

Client: Holland Manufacturing Co. **SDG No.:** Q3701

Project: Pre Treatment Plant 2025 **RunNo.:** LB138039

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	ICV1						
Ammonia as N		mg/L	1	1	100	90-110	11/25/2025
Sample ID:	CCV1						
Ammonia as N		mg/L	0.93	1	93	90-110	11/25/2025
Sample ID:	CCV2						
Ammonia as N		mg/L	0.98	1	98	90-110	11/25/2025
Sample ID:	CCV3						
Ammonia as N		mg/L	0.93	1	93	90-110	11/25/2025

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

Initial and Continuing Calibration Blank Summary

Client: Holland Manufacturing Co. **SDG No.:** Q3701

Project: Pre Treatment Plant 2025 **RunNo.:** LB138011

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB							
Orthophosphate as P	mg/L	0.007	0.0250	J	0.0038	0.05	11/21/2025
Sample ID: CCB1							
Orthophosphate as P	mg/L	< 0.0250	0.0250	U	0.0038	0.05	11/21/2025
Sample ID: CCB2							
Orthophosphate as P	mg/L	0.006	0.0250	J	0.0038	0.05	11/21/2025

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

Initial and Continuing Calibration Blank Summary

Client: Holland Manufacturing Co. **SDG No.:** Q3701

Project: Pre Treatment Plant 2025 **RunNo.:** LB138013

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB							
Phosphorus, Total	mg/L	0.006	0.0250	J	0.0045	0.05	11/21/2025
Sample ID: CCB1							
Phosphorus, Total	mg/L	0.006	0.0250	J	0.0045	0.05	11/21/2025
Sample ID: CCB2							
Phosphorus, Total	mg/L	< 0.0250	0.0250	U	0.0045	0.05	11/21/2025

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

Initial and Continuing Calibration Blank Summary

Client: Holland Manufacturing Co. **SDG No.:** Q3701

Project: Pre Treatment Plant 2025 **RunNo.:** LB138039

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1							
Ammonia as N	mg/L	< 0.0500	0.0500	U	0.030	0.1	11/25/2025
Sample ID: CCB1							
Ammonia as N	mg/L	< 0.0500	0.0500	U	0.030	0.1	11/25/2025
Sample ID: CCB2							
Ammonia as N	mg/L	< 0.0500	0.0500	U	0.030	0.1	11/25/2025
Sample ID: CCB3							
Ammonia as N	mg/L	< 0.0500	0.0500	U	0.030	0.1	11/25/2025

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

Preparation Blank Summary

Client: Holland Manufacturing Co. **SDG No.:** Q3701

Project: Pre Treatment Plant 2025

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB138011BL							
Orthophosphate as P	mg/L	0.006	0.0250	J	0.004	0.05	11/21/2025
Sample ID: LB138012BL							
BOD5	mg/L	< 0.2000	0.2000	U	0.20	2.0	11/21/2025
Sample ID: LB138018BL							
TSS	mg/L	1	2.0000	J	1	4	11/21/2025
Sample ID: LB138035BL							
Oil and Grease	mg/L	< 2.5000	2.5000	U	0.29	5.0	11/25/2025
Sample ID: PB170686BL							
Phosphorus, Total	mg/L	0.008	0.0250	J	0.005	0.05	11/21/2025
Sample ID: PB170732BL							
Ammonia as N	mg/L	< 0.0500	0.0500	U	0.03	0.1	11/25/2025

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

Matrix Spike Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3616-05
Client ID: Composite MS
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
Phosphorus, Total	mg/L	90-110	0.66		0.18		0.5	1	97		11/21/2025

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

Matrix Spike Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3616-05
Client ID: Composite MSD
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
Phosphorus, Total	mg/L	90-110	0.67		0.18		0.5	1	98		11/21/2025

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

Matrix Spike Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3701-01
Client ID: EFFLUENTMS
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
Ammonia as N	mg/L	75-125	530	OR	462	OR	50	1	136	*	11/25/2025
Orthophosphate as P	mg/L	90-110	0.51		0.033	J	0.5	1	96		11/21/2025

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

Matrix Spike Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3701-01
Client ID: EFFLUENTMSD
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
Ammonia as N	mg/L	75-125	529	OR	462	OR	50	1	134	*	11/25/2025
Orthophosphate as P	mg/L	90-110	0.52		0.033	J	0.5	1	97		11/21/2025

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

Matrix Spike Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3701-01
Client ID: EFFLUENTMS
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
Oil and Grease	mg/L	78-114	53.2		32.9		20.0	1	102		11/25/2025

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

Matrix Spike Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3701-01
Client ID: EFFLUENTMSD
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
Oil and Grease	mg/L	78-114	54.3		32.9		20.0	1	107		11/25/2025

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

Duplicate Sample Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3616-05
Client ID: Composite DUP
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
Phosphorus, Total	**mg/L**	**+/-20**	**0.18**		**0.17**		**1**	**1.72**		**11/21/2025**

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

Duplicate Sample Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3616-05
Client ID: Composite MSD
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
Phosphorus, Total	**mg/L**	**+/-20**	**0.66**		**0.67**		**1**	**0.45**		**11/21/2025**

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

Duplicate Sample Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3676-04
Client ID: OUTFALL-DSN-002DUP
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	2890		2890		1	0.05		11/21/2025

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

Duplicate Sample Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3700-04
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
BOD5	mg/L	+/-20	432		417		1	3.49		11/21/2025

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

Duplicate Sample Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3701-01
Client ID: EFFLUENTDUP
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
Orthophosphate as P	mg/L	+/-20	0.033	J	0.035	J	1	5.88		11/21/2025
Ammonia as N	mg/L	+/-20	462	OR	461	OR	1	0		11/25/2025
Ammonia as N	mg/L	+/-20	403	D	406	D	10	1		11/25/2025

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

Duplicate Sample Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3701-01
Client ID: EFFLUENTMSD
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
Orthophosphate as P	mg/L	+/-20	0.51		0.52		1	0.78		11/21/2025
Ammonia as N	mg/L	+/-20	530	OR	529	OR	1	0		11/25/2025

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

Duplicate Sample Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Sample ID: Q3701-01
Client ID: EFFLUENTMSD
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
Oil and Grease	mg/L	+/-18	53.2		54.3		1	2.05		11/25/2025

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

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Run No.: LB138011

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB138011BS								
Orthophosphate as P	mg/L	0.5	0.47		95	1	90-110	11/21/2025

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

Laboratory Control Sample Summary

Client: Holland Manufacturing Co. **SDG No.:** Q3701

Project: Pre Treatment Plant 2025 **Run No.:** LB138012

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB138012BS								
BOD5	mg/L	198	178		90	1	84.6-115.4	11/21/2025

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

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Run No.: LB138018

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB138018BS								
TSS	mg/L	550	591		107	1	90-110	11/21/2025

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

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Run No.: LB138035

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB138035BS								
Oil and Grease	mg/L	20.0	19.1		96	1	78-114	11/25/2025

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

Laboratory Control Sample Summary

Client: Holland Manufacturing Co. **SDG No.:** Q3701

Project: Pre Treatment Plant 2025 **Run No.:** LB138013

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID PB170686BS								
Phosphorus, Total	**mg/L**	**0.50**	**0.47**		**95**	**1**	**90-110**	**11/21/2025**

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

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.
SDG No.: Q3701
Project: Pre Treatment Plant 2025
Run No.: LB138039

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID PB170732BS								
Ammonia as N	mg/L	1	1.00		100	1	90-110	11/25/2025

RAW DATA

Analytical Summary Report

Analysis Method: SM4500-P E

Parameter: Phosphorus-Ortho

Run Number: LB138011

ANALYST: Iwona

SUPERVISOR REVIEW BY: jignesh

Reagent/Standard	Lot/Log #
calibration std. phosphate 1 ppm	WP115787
calibration std. phosphate 0.5 ppm	WP115786
calibration std. phosphate 0.3 ppm	WP115785
calibration std. phosphate 0.1 ppm	WP115784
calibration std. phosphate 0.05 ppm	WP115783
calibration std. 0 ppm	WP115782
phosphate CCV std.	WP115789
5N sulfuric acid	WP115340
Combined reagent	WP115795
Phenolphthalein indicator	WP113378
Sodium hydroxide, 1N	WP113878
Phosphate ICV-LCS Std	WP115788
Phosphate LOD-MDL Std 0.025ppm	WP115791
Phosphate RL CHECK	WP115796

Intercept: -0.0016 **Slope:** 0.6532 **Regression:** 0.999896

Seq	Lab ID	True Value (mg/L)	DF	Initial Volume (mL)	Final Volume (mL)	Absorbance Reading at 880nm	Result (mg/L)	%D	AnalDate	AnalTime
1	CAL1	0.00	1	50	50	0.000	0.002		11/21/2025	12:00
2	CAL2	0.05	1	50	50	0.034	0.055	10	11/21/2025	12:00
3	CAL3	0.10	1	50	50	0.062	0.097	-3	11/21/2025	12:01
4	CAL4	0.30	1	50	50	0.188	0.29	-3.3	11/21/2025	12:01
5	CAL5	0.50	1	50	50	0.328	0.505	1	11/21/2025	12:02
6	CAL6	1.00	1	50	50	0.652	1.001	0.1	11/21/2025	12:02

Reviewed By:jignesh
On:11/21/2025 4:34:53 PM
Inst Id :SPECTROPHOTOME

Analytical Summary Report

Analysis Method: SM4500-P E
ANALYST: Iwona
Parameter: Phosphorus-Ortho
SUPERVISOR REVIEW BY: jignesh
Run Number: LB138011

Seq	Lab ID	True Value (mg/l)	DF	Initial Volume (mL)	Final Volume (mL)	Absorbance Reading at 880nm	Result (mg/L)	AnalDate	AnalTime
1	ICV	0.50	1	50	50	0.314	0.483	11/21/2025	12:03
2	ICB		1	50	50	0.003	0.007	11/21/2025	12:03
3	CCV1	0.5	1	50	50	0.336	0.517	11/21/2025	12:04
4	CCB1		1	50	50	0.000	0.002	11/21/2025	12:04
5	RL Check	0.05	1	50	50	0.022	0.036	11/21/2025	12:05
6	LB138011BL		1	50	50	0.002	0.006	11/21/2025	12:05
7	LB138011BS	0.5	1	50	50	0.308	0.474	11/21/2025	12:06
8	Q3530-09		1	50	50	0.017	0.028	11/21/2025	12:06
9	Q3701-01		1	50	50	0.020	0.033	11/21/2025	12:07
10	Q3701-01DUP		1	50	50	0.021	0.035	11/21/2025	12:07
11	Q3701-01MS	0.5	1	50	50	0.334	0.514	11/21/2025	12:08
12	Q3701-01MSD	0.5	1	50	50	0.337	0.518	11/21/2025	12:08
13	CCV2	0.5	1	50	50	0.330	0.508	11/21/2025	12:09
14	CCB2		1	50	50	0.002	0.006	11/21/2025	12:09

Reviewed By:Iwona
On:11/26/2025
10:37:45 AM
Inst Id :DO METER
LB :LB138012

BOD5 LOG

ANALYST: rubir
SUPERVISOR: Iwona

QC BATCH ID: LB138012
Analysis Date: 11/21/2025
BOD Water: WP115797
MANGANOUS SULFATE SOLUTION: W3103
Starch: W3149
Alkaline Iodide Azide: W3109
Sulfuric acid, 1N: WP115342
Sodium Thiosulfate, 0.025N: W3248
POLYSEED: WP115800
NaOH, 1N: WP113878
GGA: WP115798
IncubatorID: INCUBATOR #3
Chlorine Strips: W3155
GuageID: 0511064
pH Strips: W3241
Zero DO: WP115341

Lab SampleID	Client ID	Bottle No.	VOL. ML	Initial Reading(ML)	Final Reading(ML)	Difference	Average
WINKLER 1	WINKLER 1	1	300	0.0	9.6	9.6	9.6
WINKLER 2	WINKLER 2	2	300	9.8	19.4	9.6	9.6

Meter Calibration1: 9.06 Zero DO Reading1: 0.10 mg/L (<=0.2 Criteria)

Barometric Pressure1: 760 mmHg DO Meter BOD fluid reading for winkler comparison: 9.68

After Incubation

Meter Calibration2: 8.74 Zero DO Reading2: 0.10 mg/L (<=0.2 Criteria)

Barometric Pressure2: 755 mmHg

Reviewed By:Iwona
On:11/26/2025
10:37:45 AM
Inst Id :DO METER
LB :LB138012

Alliance TECHNICAL GROUP

QC BATCH ID: LB138012

INCUBATOR TEMP IN(C): 20.0 **INCUBATOR TEMP OUT(C):** 20.0

TIME IN: 15:20 **TIME OUT:** 10:00

DATE IN: 11/21/2025 **DATE OUT:** 11/26/2025

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
LB138012BL	1	No	6.56	N/A	20.70	300	9.67	9.65	0.02	0.02	0.02	
POLYSEED	1					10	9.55	6.57	2.98	0.6	0.61	
POLYSEED	2					15	9.53	4.99	4.54	0.61		
POLYSEED	3					20	9.50	3.18	6.32	0.63		
GGA	1					6	9.54	5.47	4.07	173	178	
GGA	2					6	9.56	5.41	4.15	177		
GGA	3					6	9.54	5.25	4.29	184		
Q3700-04	1	No	6.37	6.98	20.10	5	9.57	8.21	-	0	432	pH Adjuste
Q3700-04	2					10	9.55	7.36	2.19	474		
Q3700-04	3					20	9.50	6.25	3.25	396		
Q3700-04	4					30	9.48	4.61	4.87	426		
Q3700-04DUP	1	No	6.37	6.98	20.10	5	9.58	8.02	-	0	417.17	pH Adjuste
Q3700-04DUP	2					10	9.56	7.44	2.12	453		
Q3700-04DUP	3					20	9.52	6.36	3.16	382.5		
Q3700-04DUP	4					30	9.48	4.71	4.77	416		
Q3701-01	1	No	5.41	6.77	20.20	1	9.62	8.84	-	0	15330	pH Adjuste
Q3701-01	2					5	9.59	6.22	3.37	16560		
Q3701-01	3					10	9.56	4.25	5.31	14100		
Q3701-01	4					50	9.45	0.56	-	0		
Q3701-01	5					100	9.26	0.26	-	0		
Q3701-05	1	No	5.02	6.91	20.00	1	9.65	8.62	-	0	20445	pH Adjuste
Q3701-05	2					5	9.60	5.45	4.15	21240		
Q3701-05	3					10	9.54	2.38	7.16	19650		
Q3701-05	4					50	9.46	0.69	-	0		
Q3701-05	5					100	9.22	0.29	-	0		

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)

LB138012

WorkList Name : BOD5-11-21. **WorkList ID :** 193288 **Department :** Wet-Chemistry **Date :** 11-21-2025 10:18:23

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3700-04	EFF-WW	Water	BOD5	Cool 4 deg C	ARDM01	E11	11/20/2025	SM5210 B
Q3701-01	EFFLUENT	Water	BOD5	Cool 4 deg C	HOLL01	D41	11/20/2025	SM5210 B
Q3701-05	INFLUENT	Water	BOD5	Cool 4 deg C	HOLL01	D41	11/20/2025	SM5210 B

Date/Time 11/21/2025 13.30

Raw Sample Received by: RM (WC)

Raw Sample Relinquished by:

Date/Time 11/21/2025 15.3

Raw Sample Received by:

Raw Sample Relinquished by: RM (WC)

Reviewed By:jignesh
On:11/21/2025 4:34:37 PM
Inst Id :SPECTROPHOTOME

Analytical Summary Report

Analysis Method: 365.3

Parameter: Phosphorus-Total

Run Number: LB138013

ANALYST: Iwona

SUPERVISOR REVIEW BY: jignesh

Reagent/Standard	Lot/Log #
calibration std. phosphate 1 ppm	WP115787
calibration std. phosphate 0.5 ppm	WP115786
calibration std. phosphate 0.3 ppm	WP115785
calibration std. phosphate 0.1 ppm	WP115784
calibration std. phosphate 0.05 ppm	WP115783
calibration std. 0 ppm	WP115782
phosphate CCV std.	WP115789
5N sulfuric acid	WP115340
Combined reagent	WP115795
Phenolphthalein indicator	WP113378
Sodium hydroxide, 1N	WP113878
Phosphate LOD-MDL Std 0.025ppm	WP115791
Phosphate ICV-LCS Std	WP115788

Intercept: -0.0019 **Slope:** 0.6521 **Regression:** 0.999907

Seq	Lab ID	True Value (mg/L)	DF	Initial Volume (mL)	Final Volume (mL)	Absorbance Reading at 880nm	Result (mg/L)	%D	AnalDate	AnalTime
1	CAL1	0.00	1	50	50	0.000	0.003		11/21/2025	13:20
2	CAL2	0.05	1	50	50	0.032	0.052	4	11/21/2025	13:20
3	CAL3	0.10	1	50	50	0.065	0.103	3	11/21/2025	13:21
4	CAL4	0.30	1	50	50	0.187	0.29	-3.3	11/21/2025	13:21
5	CAL5	0.50	1	50	50	0.324	0.5	0	11/21/2025	13:22
6	CAL6	1.00	1	50	50	0.652	1.003	0.3	11/21/2025	13:22

Reviewed By:jignesh
On:11/21/2025 4:34:37 PM
Inst Id :SPECTROPHOTOME

Analytical Summary Report

Analysis Method: 365.3
ANALYST: Iwona
Parameter: Phosphorus-Total
SUPERVISOR REVIEW BY: jignesh
Run Number: LB138013

Seq	Lab ID	True Value (mg/l)	DF	Initial Volume (mL)	Final Volume (mL)	Absorbance Reading at 880nm	Result (mg/L)	AnalDate	AnalTime
1	ICV	0.50	1	50	50	0.320	0.494	11/21/2025	13:23
2	ICB		1	50	50	0.002	0.006	11/21/2025	13:23
3	CCV1	0.50	1	50	50	0.341	0.526	11/21/2025	13:24
4	CCB1		1	50	50	0.002	0.006	11/21/2025	13:24
5	RL Check	0.05	1	50	50	0.024	0.040	11/21/2025	13:25
6	PB170686BL		1	50	50	0.003	0.008	11/21/2025	13:25
7	PB170686BS	0.50	1	50	50	0.307	0.474	11/21/2025	13:26
8	Q3530-09		1	50	50	0.013	0.023	11/21/2025	13:26
9	Q3616-05		1	50	50	0.113	0.176	11/21/2025	13:27
10	Q3616-05DUP		1	50	50	0.111	0.173	11/21/2025	13:27
11	Q3616-05MS	0.50	1	50	50	0.430	0.662	11/21/2025	13:28
12	Q3616-05MSD	0.50	1	50	50	0.432	0.665	11/21/2025	13:28
13	Q3701-01		1	50	50	0.051	0.081	11/21/2025	13:29
14	CCV2	0.50	1	50	50	0.335	0.517	11/21/2025	13:29
15	CCB2		1	50	50	0.001	0.004	11/21/2025	13:30

TOTAL SUSPENDED SOLIDS - SM2540D

SUPERVISOR: Iwona
ANALYST: jignesh
Date: 11/20/2025
Run Number: LB138018
BalanceID: WC SC-5
OvenID: WC OVEN-1
FilterID: 17416528
ThermometerID: WET OVEN#1

TEMP1 IN:	104 °C	11/20/2025 13:30	**TEMP1 OUT:**	103 °C	11/20/2025 14:30
TEMP2 IN:	104 °C	11/20/2025 15:30	**TEMP2 OUT:**	104 °C	11/20/2025 16:30
TEMP3 IN:	104 °C	11/21/2025 15:30	**TEMP3 OUT:**	103 °C	11/21/2025 17:00
TEMP4 IN:	104 °C	11/21/2025 17:30	**TEMP4 OUT:**	103 °C	11/21/2025 18:37

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	LB138018BL	LB138018BL	1.4863	1.4863	100	1.4864	1.4864	1.4864	0.0001	1
2	LB138018BS	LB138018BS	1.3523	1.3523	100	1.4114	1.4114	1.4114	0.0591	591
3	Q3675-02	COMP	1.4834	1.4835	200	1.5110	1.5110	1.5110	0.0275	137.5
4	Q3676-01	OUTFALL-DSN-001	1.4880	1.4881	1000	1.5979	1.5980	1.5980	0.1099	109.9
5	Q3676-04	OUTFALL-DSN-002	1.4946	1.4946	300	2.3626	2.3626	2.3626	0.8680	2893.3
6	Q3676-04DUP	OUTFALL-DSN-002DUP	1.4835	1.4835	300	2.3519	2.3519	2.3519	0.8684	2894.7
7	Q3690-01	RW8-SP100-20251118	1.4791	1.4791	1800	1.4799	1.4799	1.4799	0.0008	0.4
8	Q3690-02	RW8-SP303-20251118	1.4987	1.4987	1200	1.4989	1.4989	1.4989	0.0002	0.2
9	Q3700-04	EFF-WW	1.4737	1.4737	1000	1.5528	1.5528	1.5528	0.0791	79.1
10	Q3701-01	EFFLUENT	1.4977	1.4977	40	1.5391	1.5391	1.5391	0.0414	1035
11	Q3701-04	AERATION	1.5013	1.5013	30	1.5472	1.5472	1.5472	0.0459	1530
12	Q3703-01	SW-2	1.4802	1.4803	650	1.5178	1.5178	1.5178	0.0375	57.7
13	Q3704-01	SW-2	1.4103	1.4104	950	1.4139	1.4139	1.4139	0.0035	3.7

TOTAL SUSPENDED SOLIDS - SM2540D

SUPERVISOR: Iwona
ANALYST: jignesh
Date: 11/20/2025
Run Number: LB138018
BalanceID: WC SC-5
OvenID: WC OVEN-1
FilterID: 17416528
ThermometerID: WET OVEN#1

TEMP1 IN:	104 °C	11/20/2025 13:30	**TEMP1 OUT:**	103 °C	11/20/2025 14:30
TEMP2 IN:	104 °C	11/20/2025 15:30	**TEMP2 OUT:**	104 °C	11/20/2025 16:30
TEMP3 IN:	104 °C	11/21/2025 15:30	**TEMP3 OUT:**	103 °C	11/21/2025 17:00
TEMP4 IN:	104 °C	11/21/2025 17:30	**TEMP4 OUT:**	103 °C	11/21/2025 18:37

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

WORKLIST(Hardcopy Internal Chain)

LB 138018

WorkList Name : tss q3703 **WorkList ID :** 193293 **Department :** Wet-Chemistry **Date :** 11-21-2025 12:53:18

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3675-02	COMP	Water	TSS	Cool 4 deg C	ARAM01	E11	11/19/2025	SM2540 D
Q3676-01	OUTFALL-DSN-001	Water	TSS	Cool 4 deg C	TRIS02	E11	11/18/2025	SM2540 D
Q3676-04	OUTFALL-DSN-002	Water	TSS	Cool 4 deg C	TRIS02	E11	11/18/2025	SM2540 D
Q3690-01	RW8-SP100-20251118	Water	TSS	Cool 4 deg C	TETR06	A11	11/18/2025	SM2540 D
Q3690-02	RW8-SP303-20251118	Water	TSS	Cool 4 deg C	TETR06	A11	11/18/2025	SM2540 D
Q3700-04	EFF-WW	Water	TSS	Cool 4 deg C	ARDM01	E11	11/20/2025	SM2540 D
Q3701-01	EFFLUENT	Water	TSS	Cool 4 deg C	HOLL01	D41	11/20/2025	SM2540 D
Q3701-04	AERATION	Water	TSS	Cool 4 deg C	HOLL01	D41	11/20/2025	SM2540 D
Q3703-01	SW-2	Water	TSS	Cool 4 deg C	ATGG01	D41	11/18/2025	SM2540 D
Q3704-01	SW-2	Water	TSS	Cool 4 deg C	ATGG01	D31	11/18/2025	SM2540 D
~~Q3705-01~~	~~MH-11212025~~	~~Water~~	~~TSS~~	~~Cool 4 deg C~~	~~EURO03~~	D41	11/21/2025	SM2540 D

TP 11.22.2025

TP 11.22.2025

Date/Time 11/21/25 13:10

Raw Sample Received by: TP / WCI

Raw Sample Relinquished by:

Date/Time 11/21/25 18:00

Raw Sample Received by:

Raw Sample Relinquished by: TP / WCI

Extraction and Analytical Summary Report

Analysis Method: 1664A
Test: Oil and Grease
Run Number: LB138035
Analysis Date: 11/25/2025
BalanceID: WC SC-5
OvenID: EXT OVEN-3

ANALYST: jignesh
REVIEWED BY: Iwona
Extraction Date: 11/25/2025
Extration IN Time: 10:10
Extration OUT Time: 10:40
Thermometer ID: EXT OVEN#3

Dish #	Lab ID	Client ID	Matrix	pH	Sample Vol (ml)	Final Volume (ml)	Empty Dish Weight (g)	Final Empty Dish Weight(g)	Silica Gel Weight(g)	Weight After Drying(g)	Final Weight After Drying(g)	Change Weight (g)	Result in ppm
1	LB138035BL	LB138035BL	WATER	1.3	1000	100	3.0214	3.0214	0	3.0215	3.0215	0.0001	0.1
2	LB138035BS	LB138035BS	WATER	1.3	1000	100	3.1966	3.1966	0	3.2157	3.2157	0.0191	19.1
3	Q3701-01	EFFLUENT	WATER	1.6	1000	100	3.0633	3.0633	0	3.0962	3.0962	0.0329	32.9
4	Q3701-02	Q3701-01MS	WATER	1.6	1000	100	2.7441	2.7441	0	2.7973	2.7973	0.0532	53.2
5	Q3701-03	Q3701-01MSD	WATER	1.6	1000	100	2.8936	2.8936	0	2.9479	2.9479	0.0543	54.3
6	Q3705-01	MH-11212025	WATER	1.6	1000	100	3.1254	3.1254	0	3.5119	3.5119	0.3865	386.5
7	Q3705-02	MH-11212025	WATER	1.6	1000	100	3.1023	3.1023	0	3.5081	3.5081	0.4058	405.8
8	Q3705-03	MH-11212025	WATER	1.6	1000	100	2.7413	2.7413	0	3.1485	3.1485	0.4072	407.2

QC Batch# LB138035 **Test:** Oil and Grease **Analysis Date:** 11/25/2025

Chemicals Used:

Chemical Name	Chemical Lot #
HEXANE	W3240
pH Paper 0-14	M6069
Sodium Sulfate	EP2663
1:1 HCL	WP115016
Silica Gel	N/A
Sand	N/A

Standards Used:

Standard Name	Amount Used	Standard Lot #
LCSW	2.5 ML	WP115017
LCSWD	N/A	N/A
MS/MSD	2.5 ML	WP115018

BALANCE CALIBRATION / OVEN Dessicator Data

Analytical Balance ID # : WC SC-6

Before Analysis

0.0020 gram Balance: 0.0018 **(0.0018-0.0022)**
1.0000 gram Balance: 1.0004 **(0.9950-1.0050)**
Bal Check Time: 10:20

In OVEN TEMP1 : 71 °C **Dessicator Time In1 :** 12:11
In Time1: 11:30
Out OVEN TEMP1: 71 °C **Dessicator Time Out1:** 12:45
Out Time1: 12:10

After Analysis

0.0020 gram Balance: 0.0019 **(0.0018-0.0022)**
1.0000 gram Balance: 1.0005 **(0.9950-1.0050)**
Bal Check Time: 14:37

In OVEN TEMP2 : 70 °C **Dessicator Time In2 :** 14:01
In Time2: 13:15
Out OVEN TEMP2: 70 °C **Dessicator Time Out2:** 14:35
Out Time2: 14:00

WORKLIST(Hardcopy Internal Chain)

LB 138035

WorkList Name : OIL & GREASE Q3705 **WorkList ID :** 193337 **Department :** Wet-Chemistry **Date :** 11-25-2025 09:41:08

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3701-01 E	EFFLUENT	Water	Oil and Grease	Conc H2SO4 to pH < 2	HOLL01	D41	11/20/2025	1664A
Q3701-02	Q3701-01MS	Water	Oil and Grease	Conc H2SO4 to pH < 2	HOLL01	D41	11/20/2025	1664A
Q3701-03	Q3701-01MSD	Water	Oil and Grease	Conc H2SO4 to pH < 2	HOLL01	D41	11/20/2025	1664A
Q3705-01	MH-11212025	Water	Oil and Grease	Conc H2SO4 to pH < 2	EURO03	D41	11/21/2025	1664A
Q3705-02	MH-11212025	Water	Oil and Grease	Conc H2SO4 to pH < 2	EURO03	D41	11/21/2025	1664A
Q3705-03	MH-11212025	Water	Oil and Grease	Conc H2SO4 to pH < 2	EURO03	D41	11/21/2025	1664A

Date/Time 11-25-25 10:00

Raw Sample Received by: WC

Raw Sample Relinquished by:

Date/Time 11-25-25 15:00

Raw Sample Received by:

Raw Sample Relinquished by: WC

Lb138

Test results | Aquakem 7.2AQ1 | Page: 1

Alliance Technical Group
284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : RM | Instrument ID : Konelab

11/25/2025 12:22

Test: Ammonia-N

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	1.030	0.0	0.214	
ICB1	-0.002	0.0	0.020	
CCV1	0.927	0.0	0.194	
CCB1	-0.006	0.0	0.020	
RL CHECK	0.077	0.0	0.035	77% (50–150) 11/25/2025 RH
PB170732BL	0.009	0.0	0.022	
PB170732BS	1.034	0.0	0.215	
Q3701-01	9.243	0.0	1.753	Test limit high
Q3701-01DUP	9.218	0.0	1.748	Test limit high
Q3701-01MS	10.598	0.0	2.007	Test limit high
Q3701-01MSD	10.587	0.0	2.005	Test limit high
Q3701-05	6.365	0.0	1.214	Test limit high
CCV2	0.981	0.0	0.205	
CCB2	0.001	0.0	0.021	
Q3701-01DLX10	0.807	0.0	0.172	
Q3701-01DUPDLX10	0.812	0.0	0.173	
Q3701-05DLX5	1.104	0.0	0.228	
CCV3	0.932	0.0	0.195	
CCB3	-0.005	0.0	0.020	

N	19
Mean	2.827
SD	4.0197
CV%	142.19

Aquakem v. 7.2AQ1
Results from time period:
Tue Nov 25 10:50:08 2025
Tue Nov 25 12:16:22 2025

Sample Id	Sam/Ctr/cA	Test short r	Test type	Result	Result unit	Result date and time
0.0PPM	A	Ammonia-N	P	0.0118	mg/l	11/25/2025 10:50:08
0.1PPM	A	Ammonia-N	P	0.1088	mg/l	11/25/2025 10:50:09
0.2PPM	A	Ammonia-N	P	0.1909	mg/l	11/25/2025 10:50:10
0.4PPM	A	Ammonia-N	P	0.3769	mg/l	11/25/2025 10:50:11
1.0PPM	A	Ammonia-N	P	1.011	mg/l	11/25/2025 10:50:12
1.3PPM	A	Ammonia-N	P	1.3362	mg/l	11/25/2025 10:50:13
2.0PPM	A	Ammonia-N	P	1.9977	mg/l	11/25/2025 10:50:14
ICV1	S	Ammonia-N	P	1.0301	mg/l	11/25/2025 11:32:39
ICB1	S	Ammonia-N	P	-0.002	mg/l	11/25/2025 11:32:42
CCV1	S	Ammonia-N	P	0.9269	mg/l	11/25/2025 11:32:44
CCB1	S	Ammonia-N	P	-0.0062	mg/l	11/25/2025 11:32:45
RL CHECK	S	Ammonia-N	P	0.0769	mg/l	11/25/2025 11:32:48
PB170732BL	S	Ammonia-N	P	0.009	mg/l	11/25/2025 11:43:22
PB170732BS	S	Ammonia-N	P	1.0343	mg/l	11/25/2025 11:43:23
Q3701-01	S	Ammonia-N	P	9.2434	mg/l	11/25/2025 11:43:26
Q3701-01DUP	S	Ammonia-N	P	9.2176	mg/l	11/25/2025 11:43:27
Q3701-01MS	S	Ammonia-N	P	10.5983	mg/l	11/25/2025 11:43:29
Q3701-01MSD	S	Ammonia-N	P	10.587	mg/l	11/25/2025 11:43:31
Q3701-05	S	Ammonia-N	P	6.3649	mg/l	11/25/2025 11:50:34
CCV2	S	Ammonia-N	P	0.9811	mg/l	11/25/2025 11:50:35
CCB2	S	Ammonia-N	P	0.0015	mg/l	11/25/2025 11:50:38
Q3701-01DLX10	S	Ammonia-N	P	0.8068	mg/l	11/25/2025 12:16:13
Q3701-01DUPDLX10	S	Ammonia-N	P	0.812	mg/l	11/25/2025 12:16:16
Q3701-05DLX5	S	Ammonia-N	P	1.1035	mg/l	11/25/2025 12:16:18
CCV3	S	Ammonia-N	P	0.932	mg/l	11/25/2025 12:16:20
CCB3	S	Ammonia-N	P	-0.0049	mg/l	11/25/2025 12:16:22

Calibration results Aquakem 7.2AQ1

Alliance Technical Group
284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : RM Instrument ID : Konelab

11/25/2025 10:54

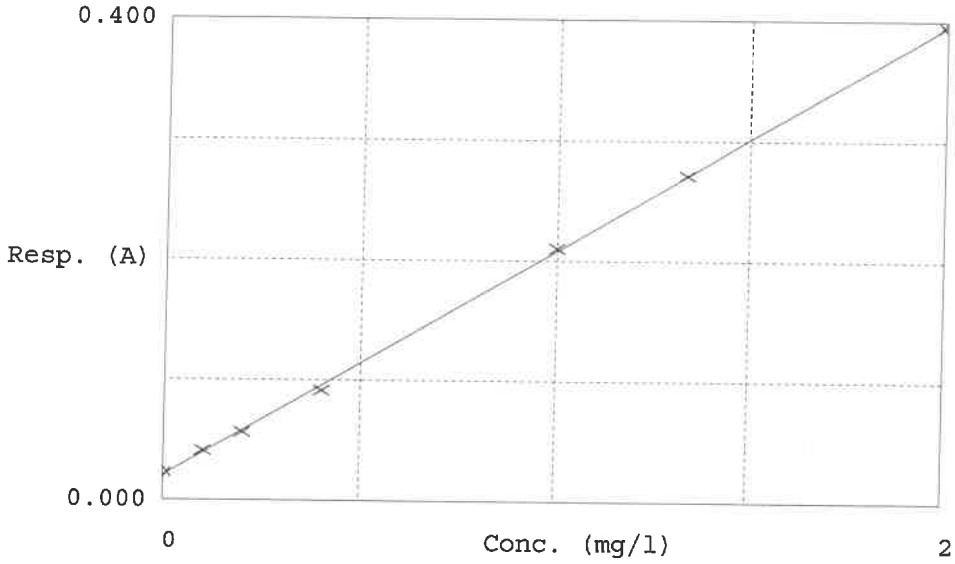
Test Ammonia-N

Accepted 11/25/2025 10:54

Factor 5.335
Bias 0.021

Coeff. of det. 0.999713

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	0.00PPM	0.023	0.0118	0.0000	–
2	NH3-2PPM	0.041	0.1088	0.1000	8.8
3	NH3-2PPM	0.056	0.1909	0.2000	-4.6
4	NH3-2PPM	0.091	0.3769	0.4000	-5.8
5	NH3-2PPM	0.210	1.0110	1.0000	1.1
6	NH3-2PPM	0.271	1.3362	1.3333	2.8
7	NH3-2PPM	0.395	1.9977	2.0000	-0.1

11/25/2025
RM

Alliance TECHNICAL GROUP

Water Ammonia Preparation Sheet

PB170732

SOP ID : MSM4500-NH3 B,G-Ammonia-18

SDG No : N/A

Matrix : WATER

Pippete ID : WC

Balance ID : N/A

Hood ID : HOOD#2

Block ID : WC-DIST-BLOCK-1

Weigh By : N/A

Start Digest Date: 11/25/2025 **Time :** 09:10 **Temp :** 150 °C

End Digest Date: 11/25/2025 **Time :** 10:10 **Temp :** 159 °C

Digestion tube ID : M5595

Filter paper ID : N/A

pH Meter ID : N/A

Block Thermometer ID : WC CYANIDE

Prep Technician Signature: RM

Supervisor Signature: 12

Standared Name	MLS USED	STD REF. # FROM LOG
LCSW	1.0ML	WP115589
MS/MSD SPIKE SOL.	1.0ML	WP115588
PBW	50.0ML	W3112
RL CHECK	0.1ML	WP115588
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
BORATE BUFFER	2.5ML	WP113886
NAOH 6N	0.5-2.0ML	WP113887
H2SO4 0.04N	5.0ML	WP115336
pH strip-Ammonia	N/A	W3133
KI-starch paper	N/A	W3155
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

ALL GLASSWEAR ARE STEAMED OUT AND THERE WERE NO TRACE OF AMMONIA USING NESLER REAGENT WP114104.Due to bad matrix and client history 1ML was taken as an initial volume for Q3701-01 and Q3701-05.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/25/2025 1075	RM (WC)	RM (WC)
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Ammonia Preparation Sheet

PB170732

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB170732BL	PBW732	50	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
PB170732BS	LCS732	50	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
Q3701-01DUP	EFFLUENTDUP	1	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
Q3701-01MS	EFFLUENTMS	1	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
Q3701-01MSD	EFFLUENTMSD	1	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
Q3701-01	EFFLUENT	1	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
Q3701-05	INFLUENT	1	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : AMMONIA-Q3701 **WorkList ID :** 193328 **Department :** Distillation **Date :** 11-24-2025 16:37:51

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3701-01	EFFLUENT	Water	Ammonia	Conc H2SO4 to pH < 2	HOLL01	D41	11/20/2025	SM4500-NH3
Q3701-05	INFLUENT	Water	Ammonia	Conc H2SO4 to pH < 2	HOLL01	D41	11/20/2025	SM4500-NH3

Date/Time 11/25/2025 08.15
Raw Sample Received by: RM (WC)
Raw Sample Relinquished by:

Date/Time 11/25/2025 10.00
Raw Sample Received by:
Raw Sample Relinquished by: RM (WC)

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

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB138011

Review By	Iwona	Review On	11/21/2025 3:46:28 PM
Supervise By	jignesh	Supervise On	11/21/2025 4:34:53 PM
SubDirectory	LB138011	Test	Phosphorus-Ortho

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	WP115787,WP115786,WP115785,WP115784,WP115783,WP115782,WP115789,WP115340,WP115795,WP113378,\

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	11/21/25 12:00		Iwona	OK
2	CAL2	CAL2	CAL	11/21/25 12:00		Iwona	OK
3	CAL3	CAL3	CAL	11/21/25 12:01		Iwona	OK
4	CAL4	CAL4	CAL	11/21/25 12:01		Iwona	OK
5	CAL5	CAL5	CAL	11/21/25 12:02		Iwona	OK
6	CAL6	CAL6	CAL	11/21/25 12:02		Iwona	OK
7	ICV	ICV	ICV	11/21/25 12:03		Iwona	OK
8	ICB	ICB	ICB	11/21/25 12:03		Iwona	OK
9	CCV1	CCV1	CCV	11/21/25 12:04		Iwona	OK
10	CCB1	CCB1	CCB	11/21/25 12:04		Iwona	OK
11	RL Check	RL Check	RL	11/21/25 12:05		Iwona	OK
12	LB138011BL	LB138011BL	MB	11/21/25 12:05		Iwona	OK
13	LB138011BS	LB138011BS	LCS	11/21/25 12:06		Iwona	OK
14	Q3530-09	MDL-WATER-03-QT4	SAM	11/21/25 12:06		Iwona	OK
15	Q3701-01	EFFLUENT	SAM	11/21/25 12:07		Iwona	OK
16	Q3701-01DUP	EFFLUENTDUP	DUP	11/21/25 12:07		Iwona	OK
17	Q3701-01MS	EFFLUENTMS	MS	11/21/25 12:08		Iwona	OK
18	Q3701-01MSD	EFFLUENTMSD	MSD	11/21/25 12:08		Iwona	OK

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

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB138011

Review By	Iwona	Review On	11/21/2025 3:46:28 PM
Supervise By	jignesh	Supervise On	11/21/2025 4:34:53 PM
SubDirectory	LB138011	Test	Phosphorus-Ortho

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	WP115787,WP115786,WP115785,WP115784,WP115783,WP115782,WP115789,WP115340,WP115795,WP113378,\

19	CCV2	CCV2	CCV	11/21/25 12:09		Iwona	OK
20	CCB2	CCB2	CCB	11/21/25 12:09		Iwona	OK

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 # LB138012

Review By	rubina	Review On	11/26/2025 10:37:20 AM
Supervise By	Iwona	Supervise On	11/26/2025 10:37:45 AM
SubDirectory	LB138012	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	WP115797,W3149,WP115342,W3103,W3109,W3248,WP115800,WP115798,WP113878

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB138012BL	LB138012BL	MB	11/21/25 15:20		RUBINA	OK
2	LB138012BS	LB138012BS	LCS	11/21/25 15:20		RUBINA	OK
3	Q3700-04	EFF-WW	SAM	11/21/25 15:20		RUBINA	OK
4	Q3700-04DUP	EFF-WWDUP	DUP	11/21/25 15:20		RUBINA	OK
5	Q3701-01	EFFLUENT	SAM	11/21/25 15:20		RUBINA	OK
6	Q3701-05	INFLUENT	SAM	11/21/25 15:20		RUBINA	OK

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

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB138013

Review By	Iwona	Review On	11/21/2025 4:10:51 PM
Supervise By	jignesh	Supervise On	11/21/2025 4:34:37 PM
SubDirectory	LB138013	Test	Phosphorus-Total

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	WP115787,WP115786,WP115785,WP115784,WP115783,WP115782,WP115789,WP115340,WP115795,WP113378,\

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	11/21/25 13:20		Iwona	OK
2	CAL2	CAL2	CAL	11/21/25 13:20		Iwona	OK
3	CAL3	CAL3	CAL	11/21/25 13:21		Iwona	OK
4	CAL4	CAL4	CAL	11/21/25 13:21		Iwona	OK
5	CAL5	CAL5	CAL	11/21/25 13:22		Iwona	OK
6	CAL6	CAL6	CAL	11/21/25 13:22		Iwona	OK
7	ICV	ICV	ICV	11/21/25 13:23		Iwona	OK
8	ICB	ICB	ICB	11/21/25 13:23		Iwona	OK
9	CCV1	CCV1	CCV	11/21/25 13:24		Iwona	OK
10	CCB1	CCB1	CCB	11/21/25 13:24		Iwona	OK
11	RL Check	RL Check	RL	11/21/25 13:25		Iwona	OK
12	PB170686BL	PB170686BL	MB	11/21/25 13:25		Iwona	OK
13	PB170686BS	PB170686BS	LCS	11/21/25 13:26		Iwona	OK
14	Q3530-09	MDL-WATER-03-QT4	SAM	11/21/25 13:26		Iwona	OK
15	Q3616-05	Composite	SAM	11/21/25 13:27		Iwona	OK
16	Q3616-05DUP	Composite DUP	DUP	11/21/25 13:27		Iwona	OK
17	Q3616-05MS	Composite MS	MS	11/21/25 13:28		Iwona	OK
18	Q3616-05MSD	Composite MSD	MSD	11/21/25 13:28		Iwona	OK

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

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB138013

Review By	Iwona	Review On	11/21/2025 4:10:51 PM
Supervise By	jignesh	Supervise On	11/21/2025 4:34:37 PM
SubDirectory	LB138013	Test	Phosphorus-Total

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	WP115787,WP115786,WP115785,WP115784,WP115783,WP115782,WP115789,WP115340,WP115795,WP113378,\

19	Q3701-01	EFFLUENT	SAM	11/21/25 13:29		Iwona	OK
20	CCV2	CCV2	CCV	11/21/25 13:29		Iwona	OK
21	CCB2	CCB2	CCB	11/21/25 13:30		Iwona	OK

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

Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QCBatch ID # LB138018

Review By	jignesh	Review On	11/25/2025 11:13:12 AM
Supervise By	Iwona	Supervise On	11/25/2025 11:37:09 AM
SubDirectory	LB138018	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	LB138018BL	LB138018BL	MB	11/21/25 15:30		jignesh	OK
2	LB138018BS	LB138018BS	LCS	11/21/25 15:30	55 MG W3186 + 100 ML W3112	jignesh	OK
3	Q3675-02	COMP	SAM	11/21/25 15:30		jignesh	OK
4	Q3676-01	OUTFALL-DSN-001	SAM	11/21/25 15:30		jignesh	OK
5	Q3676-04	OUTFALL-DSN-002	SAM	11/21/25 15:30		jignesh	OK
6	Q3676-04DUP	OUTFALL-DSN-002D	DUP	11/21/25 15:30		jignesh	OK
7	Q3690-01	RW8-SP100-2025111	SAM	11/21/25 15:30		jignesh	OK
8	Q3690-02	RW8-SP303-2025111	SAM	11/21/25 15:30		jignesh	OK
9	Q3700-04	EFF-WW	SAM	11/21/25 15:30		jignesh	OK
10	Q3701-01	EFFLUENT	SAM	11/21/25 15:30		jignesh	OK
11	Q3701-04	AERATION	SAM	11/21/25 15:30		jignesh	OK
12	Q3703-01	SW-2	SAM	11/21/25 15:30		jignesh	OK
13	Q3704-01	SW-2	SAM	11/21/25 15:30		jignesh	OK

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

Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QCBatch ID # LB138035

Review By	jignesh	Review On	11/25/2025 10:37:47 AM
Supervise By	Iwona	Supervise On	11/25/2025 11:36:42 AM
SubDirectory	LB138035	Test	Oil and Grease

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	W3240,M6069,EP2663,WP115016,N/A,N/A,WP115017,N/A,WP115018

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB138035BL	LB138035BL	MB	11/25/25 11:30		jignesh	OK
2	LB138035BS	LB138035BS	LCS	11/25/25 11:30		jignesh	OK
3	Q3701-01	EFFLUENT	SAM	11/25/25 11:30		jignesh	OK
4	Q3701-02	Q3701-01MS	MS	11/25/25 11:30		jignesh	OK
5	Q3701-03	Q3701-01MSD	MSD	11/25/25 11:30		jignesh	OK
6	Q3705-01	MH-11212025	SAM	11/25/25 11:30		jignesh	OK
7	Q3705-02	MH-11212025	SAM	11/25/25 11:30		jignesh	OK
8	Q3705-03	MH-11212025	SAM	11/25/25 11:30		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 # LB138039

Review By	RUBINA	Review On	11/25/2025 4:56:55 PM
Supervise By	Iwona	Supervise On	11/25/2025 4:57:09 PM
SubDirectory	LB138039	Test	Ammonia

STD. NAME	STD REF.#
ICAL Standard	WP115818
ICV Standard	WP115820
CCV Standard	WP115819
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP115589
Chk Standard	WP115821,WP114133,WP113929,WP114132

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPM	0.0PPM	CAL1	11/25/25 10:50		rubina	OK
2	0.1PPM	0.1PPM	CAL2	11/25/25 10:50		rubina	OK
3	0.2PPM	0.2PPM	CAL3	11/25/25 10:50		rubina	OK
4	0.4PPM	0.4PPM	CAL4	11/25/25 10:50		rubina	OK
5	1.0PPM	1.0PPM	CAL5	11/25/25 10:50		rubina	OK
6	1.3PPM	1.3PPM	CAL6	11/25/25 10:50		rubina	OK
7	2.0PPM	2.0PPM	CAL7	11/25/25 10:50		rubina	OK
8	ICV1	ICV1	ICV	11/25/25 11:32		rubina	OK
9	ICB1	ICB1	ICB	11/25/25 11:32		rubina	OK
10	CCV1	CCV1	CCV	11/25/25 11:32		rubina	OK
11	CCB1	CCB1	CCB	11/25/25 11:32		rubina	OK
12	RL	RL	LOQ	11/25/25 11:32		rubina	OK
13	PB170732BL	PB170732BL	MB	11/25/25 11:43		rubina	OK
14	PB170732BS	PB170732BS	LCS	11/25/25 11:43		rubina	OK
15	Q3701-01	EFFLUENT	SAM	11/25/25 11:43	High	rubina	Dilution
16	Q3701-01DUP	EFFLUENTDUP	DUP	11/25/25 11:43	High	rubina	Dilution
17	Q3701-01MS	EFFLUENTMS	MS	11/25/25 11:43		rubina	OK
18	Q3701-01MSD	EFFLUENTMSD	MSD	11/25/25 11:43		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 # LB138039

Review By	RUBINA	Review On	11/25/2025 4:56:55 PM
Supervise By	Iwona	Supervise On	11/25/2025 4:57:09 PM
SubDirectory	LB138039	Test	Ammonia

STD. NAME	STD REF.#
ICAL Standard	WP115818
ICV Standard	WP115820
CCV Standard	WP115819
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP115589
Chk Standard	WP115821,WP114133,WP113929,WP114132

19	Q3701-05	INFLUENT	SAM	11/25/25 11:50	High	rubina	Dilution
20	CCV2	CCV2	CCV	11/25/25 11:50		rubina	OK
21	CCB2	CCB2	CCB	11/25/25 11:50		rubina	OK
22	Q3701-01DL	EFFLUENTDL	SAM	11/25/25 12:16	Report 10X	rubina	Confirms
23	Q3701-01DUPDL	EFFLUENTDUPDL	DUP	11/25/25 12:16	Report 10X	rubina	Confirms
24	Q3701-05DL	INFLUENTDL	SAM	11/25/25 12:16	Report 5X	rubina	Confirms
25	CCV3	CCV3	CCV	11/25/25 12:16		rubina	OK
26	CCB3	CCB3	CCB	11/25/25 12:16		rubina	OK

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

Prep Standard - Chemical Standard Summary

Order ID : Q3701

Test : Ammonia,BOD5,Oil and Grease,Phosphorus-Ortho,Phosphorus-Total,TSS

Prepbatch ID : PB170686,PB170732,

Sequence ID/Qc Batch ID: LB138011,LB138012,LB138013,LB138018,LB138035,LB138039,

Standard ID :

EP2663,WP113378,WP113878,WP113885,WP113886,WP113887,WP113929,WP114132,WP114133,WP115016,WP115017,WP115018,WP115085,WP115086,WP115089,WP115336,WP115340,WP115342,WP115558,WP115559,WP115588,WP115589,WP115782,WP115783,WP115784,WP115785,WP115786,WP115787,WP115788,WP115789,WP115790,WP115791,WP115792,WP115793,WP115794,WP115795,WP115796,WP115797,WP115798,WP115800,WP115818,WP115819,WP115820,WP115821,

Chemical ID :

E3875,E3972,M6069,M6151,M6186,W2306,W2650,W2653,W2654,W2663,W2664,W2666,W2788,W2817,W2871,W3009,W3035,W3082,W3103,W3109,W3112,W3113,W3132,W3133,W3149,W3155,W3195,W3196,W3201,W3202,W3206,W3222,W3240,W3241,W3243,W3248,W3252,W3253,

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

Extractions STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3923	Baked Sodium Sulfate	EP2663	11/20/2025	05/20/2026	RUPESHKUMAR SHAH	Extraction_SCALE_2 (EX-SC-2)	None	Riteshkumar Patel 11/20/2025

FROM 4000.00000gram of E3875 = Final Quantity: 4000.000 gram

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1213	Phenolphthalein indicator	WP113378	06/04/2025	12/04/2025	Iwona Zarych	WETCHEM_SCALE_5 (WC SC-5)	None	Jignesh Parikh 06/05/2025

FROM 0.10000gram of W2650 + 50.00000ml of W2788 + 50.00000ml 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
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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1796	NaOH, 0.1N	WP113885	07/10/2025	12/31/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCSC-7)	None	Iwona Zarych 07/10/2025

FROM 4.00000gram of W3113 + 996.00000ml of W3112 = Final Quantity: 1000.000 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
1494	BORATE BUFFER	WP113886	07/10/2025	12/31/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCSC-7)	None	Iwona Zarych 07/10/2025

FROM 0.90250L of W3112 + 9.50000gram of W3201 + 88.00000ml of WP113885 = Final Quantity: 1.000 L

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1471	NaOH Solution, 6N	WP113887	07/10/2025	12/31/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCSC-7)	None	Iwona Zarych 07/10/2025

FROM 240.00000gram of W3113 + 760.00000ml of W3112 = Final Quantity: 1000.000 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
290	Phenol reagent for Ammonia	WP113929	07/14/2025	12/31/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCSC-7)	None	Iwona Zarych 07/15/2025

FROM 3.20000gram of W3113 + 8.30000gram of W2663 + 88.80000ml of W3112 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
635	EDTA BUFFER FOR AMMONIA	WP114132	07/31/2025	12/31/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCSC-7)	None	Iwona Zarych 07/31/2025

FROM 5.50000gram of W3113 + 50.00000gram of W3132 + 950.00000ml of W3112 = Final Quantity: 1000.000 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
289	Sodium Hypochlorite for Ammonia	WP114133	07/31/2025	12/31/2025	Rubina Mughal	None	None	Iwona Zarych 08/04/2025

FROM 50.00000ml of W3112 + 50.00000ml of W3222 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
229	1:1 HCL	WP115016	10/02/2025	02/17/2026	Jignesh Parikh	None	None	Iwona Zarych 10/02/2025

FROM 500.00000ml of M6151 + 500.00000ml of W3112 = Final Quantity: 1.000 L

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
2470	1664A SPIKING SOLN	WP115017	10/02/2025	04/02/2026	Jignesh Parikh	WETCHEM_SCALE_7 (WCSC-6)	None	Iwona Zarych 10/02/2025

FROM 1000.00000ml of E3972 + 4.00000gram of W2817 + 4.00000gram of W2871 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3374	1664A QCS spiking solution-SS	WP115018	10/02/2025	04/02/2026	Jignesh Parikh	WETCHEM_SCALE_7 (WCSC-6)	None	Iwona Zarych 10/02/2025

FROM 1000.00000ml of E3972 + 4.00000gram of W3009 + 4.00000gram of W3082 = Final Quantity: 1000.000 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
153	Ammonia Stock Std. (1000 ppm)	WP115085	10/08/2025	04/08/2026	Rubina Mughal	WETCHEM_SCALE_8 (WCSC-7)	None	Iwona Zarych 10/08/2025

FROM 3.81900gram of W3196 + 996.18100ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1895	Ammonia Stock Std, 1000PPM-SS	WP115086	10/08/2025	04/08/2026	Rubina Mughal	WETCHEM_SCALE_8 (WCSC-7)	None	Iwona Zarych 10/08/2025

FROM 3.81900gram of W3195 + 996.18100ml of W3112 = Final Quantity: 1000.000 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
1211	11 N sulfuric acid	WP115089	10/08/2025	04/08/2026	Rubina Mughal	None	None	Iwona Zarych 10/08/2025

FROM 306.00000ml of M6186 + 694.00000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1597	0.04 N H2SO4	WP115336	10/27/2025	04/27/2026	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 10/27/2025

FROM 1.00000ml of M6186 + 999.00000ml of W3112 = Final Quantity: 1000.000 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
126	5N sulfuric acid	WP115340	10/27/2025	04/27/2026	Rubina Mughal	None	None	Jignesh Parikh 10/27/2025

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1841	Sulfuric Acid, 1N	WP115342	10/27/2025	04/27/2026	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 10/27/2025

FROM 2.80000ml of M6186 + 97.20000ml 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
115	Phosphate Stock Std. (50 ppm)	WP115558	11/07/2025	05/07/2026	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Jignesh Parikh 11/10/2025

FROM 0.11000gram of W3206 + 500.00000ml of W3112 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2790	Phosphate Stock std, 50PPM-SS	WP115559	11/07/2025	05/07/2026	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Jignesh Parikh 11/10/2025

FROM 0.11000gram of W3202 + 500.00000ml of W3112 = Final Quantity: 500.000 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
1322	Ammonia Intermediate Std, 50PPM	WP115588	11/10/2025	12/10/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/11/2025

FROM 95.00000ml of W3112 + 5.00000ml of WP115085 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1639	Ammonia Intermediate Std-Second source, 50PPM	WP115589	11/10/2025	12/10/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/11/2025

FROM 95.00000ml of W3112 + 5.00000ml of WP115086 = 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
122	calibration std. 0 ppm	WP115782	11/21/2025	11/28/2025	Iwona Zarych	None	None	Jignesh Parikh 11/21/2025

FROM 100.00000ml of W3112 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
121	calibration std. phosphate 0.05 ppm	WP115783	11/21/2025	11/28/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/21/2025

FROM 99.90000ml of W3112 + 0.10000ml of WP115558 = 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
120	calibration std. phosphate 0.1 ppm	WP115784	11/21/2025	11/28/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/21/2025

FROM 99.80000ml of W3112 + 0.20000ml of WP115558 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
119	calibration std. phosphate 0.3 ppm	WP115785	11/21/2025	11/28/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/21/2025

FROM 99.40000ml of W3112 + 0.60000ml of WP115558 = 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
118	calibration std. phosphate 0.5 ppm	WP115786	11/21/2025	11/28/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/21/2025

FROM 99.00000ml of W3112 + 1.00000ml of WP115558 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
117	calibration std. phosphate 1 ppm	WP115787	11/21/2025	11/28/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/21/2025

FROM 98.00000ml of W3112 + 2.00000ml of WP115558 = 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
3805	Phosphate ICV-LCS Std	WP115788	11/21/2025	11/28/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/21/2025

FROM 99.00000ml of W3112 + 1.00000ml of WP115559 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
124	phosphate CCV std.	WP115789	11/21/2025	11/28/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/21/2025

FROM 99.00000ml of W3112 + 1.00000ml of WP115558 = 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
3907	Phosphate MDL-LOD-LOQ spike solution, 5ppm	WP115790	11/21/2025	11/28/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/21/2025

FROM 9.00000ml of W3112 + 1.00000ml of WP115558 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3814	Phosphate LOD-MDL Std 0.025ppm	WP115791	11/21/2025	11/28/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/21/2025

FROM 99.50000ml of W3112 + 0.50000ml of WP115790 = 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
590	Ascorbic Acid	WP115792	11/21/2025	11/22/2025	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Jignesh Parikh 11/21/2025

FROM 0.52800gram of W3243 + 30.00000ml of W3112 = Final Quantity: 30.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
648	Ammonium molybdate solution	WP115793	11/21/2025	02/11/2026	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Jignesh Parikh 11/21/2025

FROM 20.00000gram of W2664 + 480.00000ml of W3112 = Final Quantity: 500.000 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
588	Potassium Antimonyl Tartrate	WP115794	11/21/2025	05/21/2026	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Jignesh Parikh 11/21/2025

FROM 1.37150gram of W2306 + 500.00000ml of W3112 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
658	Combined reagent	WP115795	11/21/2025	11/22/2025	Iwona Zarych	None	Glass Pipette-A	Jignesh Parikh 11/21/2025

FROM 15.00000ml of WP115793 + 30.00000ml of WP115792 + 5.00000ml of WP115794 + 50.00000ml of WP115340 = 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
4212	Phosphate RL CHECK	WP115796	11/21/2025	11/28/2025	Iwona Zarych	None	None	Jignesh Parikh 11/21/2025

FROM 99.80000ml of W3112 + 0.20000ml of WP115558 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
127	BOD Dilution fluid	WP115797	11/21/2025	11/22/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/21/2025

FROM 18.00000L of W3112 + 3.00000PILLOW of W3253 = Final Quantity: 18.000 L

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
129	Glutamic acid-glucose mix for BOD	WP115798	11/21/2025	11/22/2025	Rubina Mughal	WETCHEM_SCALE_7 (WCSC-6)	None	Iwona Zarych 11/21/2025

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	WP115800	11/21/2025	11/22/2025	Rubina Mughal	None	None	Iwona Zarych 11/21/2025

FROM 1.00000PILLOW of W3252 + 300.00000ml of WP115797 = Final Quantity: 300.000 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
275	Ammonia Calibration Std. (2 ppm)	WP115818	11/25/2025	11/26/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/25/2025

FROM 48.00000ml of W3112 + 2.00000ml of WP115588 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
285	Ammonia CCV Std. (1 ppm)	WP115819	11/25/2025	11/26/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/25/2025

FROM 49.00000ml of W3112 + 1.00000ml of WP115588 = Final Quantity: 50.000 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
286	Ammonia ICV Std. (1 ppm)	WP115820	11/25/2025	11/26/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/25/2025

FROM 49.00000ml of W3112 + 1.00000ml of WP115589 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
740	sodium nitroferricyanide for ammonia	WP115821	11/25/2025	12/25/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 11/25/2025

FROM 0.05000gram of W2666 + 99.95000ml of W3112 = Final Quantity: 100.000 ml

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19631-100 / SODIUM SULFATE, ANHYDROUS, PEST GRADE, 1	417203	07/28/2026	07/28/2025 / RUPESH	01/29/2025 / Rajesh	E3875

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	24H1462005	05/24/2027	09/16/2025 / Evelyn	09/04/2025 / Riteshkumar	E3972

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140440 / TEST PAPERS,PH,0-2.5,.2SENSI, 100PK	80A0441	02/29/2028	09/03/2024 / jignesh	08/19/2024 / Jaswal	M6069

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	07/12/2026	08/13/2025 / Sagar	08/06/2025 / Sagar	M6186

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	A1561-500GM / POTASSIUM ANTIMONY TARTRATE TRIHYDRATE, 500G	2GH0057	12/11/2027	12/11/2017 / apatel	12/11/2017 / apatel	W2306

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J2870-1 / PHENOLPHTHALEIN, INDICATOR F/TITRATION, 500G	0000235350	06/04/2025	01/31/2020 / AMANDEEP	01/20/2020 / apatel	W2650

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.	P1060-10 / PHENOL, ACS, 500G	2HD0179	01/27/2030	01/27/2020 / apatel	01/27/2020 / apatel	W2663

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J07716-1 / Ammonium Molybdate 500G	0000234410	02/11/2026	02/10/2020 / AMANDEEP	01/31/2020 / apatel	W2664

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	87683 / Sodium Nitroferricyanide 250g	W12F013	02/10/2030	02/10/2020 / apatel	02/10/2020 / apatel	W2666

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC16721-3 / Isopropanol, 99%	C20F23007	06/30/2025	12/30/2020 / apatel	12/30/2020 / apatel	W2788

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	A12244 / Stearic acid, 98%, 100 g	U20E006	04/02/2026	04/02/2021 / apatel	04/02/2021 / apatel	W2817

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	H223-57 / Hexadecane, 99.0%	0000266903	05/04/2027	09/07/2021 / apatel	08/26/2021 / apatel	W2871

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	H223-57 / Hexadecane, 99.0%	SHBP8192	02/27/2028	02/27/2023 / Iwona	02/27/2023 / Iwona	W3009

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	BDH0214-500G / Ammonium Persulfate Crystal, 500g	MKCR9319	06/30/2028	03/05/2024 / Iwona	06/06/2023 / Iwona	W3035

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	A12244 / Stearic acid, 98%, 100 g	U23E020	02/26/2029	02/26/2024 / Iwona	02/26/2024 / Iwona	W3082

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

CHEMICAL RECEIPT LOG BOOK

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.	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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC05050-1 / EDTA, disodium salt, dihydrate 1 lb	2ND0156	07/10/2026	07/26/2024 / Iwona	07/26/2024 / Iwona	W3132

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140476 / Test Paper,PH Short Range 9.0/10.0	L23	08/22/2029	08/22/2024 / Iwona	08/22/2024 / Iwona	W3133

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

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 / 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.	140730 / TEST PAPER,POT.IOD-STRCH,PK100,CS12	14-860	12/02/2029	12/02/2024 / Iwona	12/02/2024 / Iwona	W3155

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J0660-1 / AMMONIUM CHLORIDE, ACS, 500G	24L0356561	08/31/2027	03/19/2025 / Iwona	03/19/2025 / Iwona	W3195

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J0660-1 / AMMONIUM CHLORIDE, ACS, 500G	MKCV1009	09/30/2026	03/19/2025 / Iwona	03/19/2025 / Iwona	W3196

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3568-1 / Sodium Borate, 500 gms	BCCL9613	05/31/2029	04/16/2025 / Iwona	04/16/2025 / Iwona	W3201

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3246-1 / POTAS PHOSPHATE, MONO, CRYS, ACS, 500G	MKCW6723	10/31/2028	04/16/2025 / Iwona	04/16/2025 / Iwona	W3202

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

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J9416-1 / Sodium Hypochlorite 500 ml	2506M51	12/31/2025	07/02/2025 / Iwona	07/02/2025 / Iwona	W3222

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L)	25C0362006	04/30/2026	09/15/2025 / JIGNESH	09/12/2025 / JIGNESH	W3240

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 / Iwona	10/02/2025 / Iwona	W3241

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J0938-7 / Ascorbic Acid, 500 gms	MKCX1143	01/31/2028	10/03/2025 / Iwona	10/03/2025 / Iwona	W3243

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

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	136742-80 / POLYSEED	072505	05/31/2027	10/31/2025 / Iwona	10/31/2025 / Iwona	W3252

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	A5219	08/31/2030	11/19/2025 / Iwona	11/19/2025 / Iwona	W3253

CERTIFICATE OF ANALYSIS

Printed: 12/8/2017

Customer No : 30017 **Customer :** PCI SCIENTIFIC **Customer PO :** 6035343

Order Number : 3008126 **Delivery # :** 58495347

Catalog : A1561 Potassium Antimony Tartrate Trihydrate, Reagent, ACS **Lot :** 2GH0057

W2306
Received
12/11/17
AP

Chemical Formula : $C_8H_4K_2O_{12}Sb_2.3H_2O$ **Formula Weight :** 667.87

CAS# : 28300-74-5

Test	Limit Min.	Limit Max.	Results
ASSAY ($C_8H_4K_2O_{12}Sb_2.3HO$)	99.0	103.0 %	101.0 %
TITRATABLE ACID OR BASE	--	0.020 meq/g	<0.020 meq/g
LOSS ON DRYING	--	2.7 %	<2.7 %
ARSENIC (As)	--	0.015 %	<0.015 %
APPEARANCE			WHITE POWDER
DATE OF MANUFACTURE			29-DEC-2015

All pharmaceutical ingredients are tested using current edition of applicable pharmacopeia.

Read and understand label and MSDS/SDS before handling any chemical. All Spectrum's chemicals are for manufacturing, processing, repacking or research purposes by experienced personnel only. The customer must ensure to provide its users adequate hazardous material training and appropriate protective gears before handling our chemicals.

Certificate of Analysis Results Certified By:

Ibad Tirmizi
Director, Quality Assurance, Quality Control
New Brunswick, NJ 08901

spectrum CHEMICAL MFG CORP
SpectrumChemical.com

Corporate Office:
755-769 Jersey Ave.
New Brunswick, NJ 08901
(732) 214-1300

West Coast Plant:
14422 S. San Pedro St.
Gardena, CA 90248
(310) 516-8000

Ammonium Molybdate, 4-Hydrate, Crystal
BAKER ANALYZED® A.C.S. Reagent

(ammonium heptamolybdate, tetrahydrate)

Material No.: 0716-01
Batch No.: 0000234410
Manufactured Date: 2019/02/13
Retest Date: 2026/02/11
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay (as MoO_3)	81.0 - 83.0 %	81.4
ACS - Insoluble Matter	<= 0.005 %	< 0.001
Chloride (Cl)	<= 0.002 %	< 0.002
Nitrate (NO_3)	Passes Test	PT
Arsenate, Phosphate and Silicate (as SiO_2)	<= 0.001 %	< 0.001
ACS - Phosphate (PO_4)	<= 5 ppm	< 5
Sulfate (SO_4)	<= 0.02 %	< 0.02
Heavy Metals (as Pb)	<= 0.001 %	< 0.001
Magnesium (Mg)	<= 0.005 %	< 0.001
Potassium (K)	<= 0.01 %	< 0.01
Sodium (Na)	<= 0.01 %	<0.001

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

Country of Origin: US
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

Phenolphthalein, Powder
BAKER ANALYZED® A.C.S. Reagent

Material No.: 2870-01
Batch No.: 0000235350
Manufactured Date: 2018/06/06
Retest Date: 2025/06/04
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
ACS - Clarity of Solution	Passes Test	PT
Visual Transition Interval - pH...8.0 (Colorless)	Passes Test	PT
Visual Transition Interval - pH...10.0 (Red)	Passes Test	PT

For Laboratory, Research or Manufacturing Use

Country of Origin: CN
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

spectrum® CHEMICAL MFG CORP

Certificate Of Analysis

Item Number	P1060	Lot Number	2HD0179
Item	Phenol, Loose Crystal, Reagent, ACS		
CAS Number	108-95-2		
Molecular Formula	C_6H_6O	Molecular Weight	94.11

Test	Specification		Result
	min	max	
ASSAY (C_6H_5OH)	99.0 %		100.02 %
FREEZING POINT (DRY)	40.5 C		40.5°C
CLARITY OF SOLUTION	TO PASS TEST		PASSES TEST
RESIDUE AFTER EVAPORATION		0.05 %	<0.05 %
WATER		0.5 %	0.0087 %
DATE OF MANUFACTURE			06-MAR-2018

Spectrum Chemical Mfg Corp
755 Jersey Avenue
New Brunswick 08901 NJ

Certificate Of Analysis Results Certified by

Ibad Tirmizi
Director of Quality
Spectrum Chemical Mfg. Corp.

All pharmaceutical ingredients are tested using current edition of applicable pharmacopeia.

Read and understand label and SDS before handling any chemicals. All Spectrum's chemicals are for manufacturing, processing, repacking or research purposes by experienced personnel only. It is the customer's responsibility to provide adequate hazardous material training and ensure that appropriate Personal Protective Equipment (PPE) is used before handling any chemical.

Hexadecane, 99.0%

Material No.: H223-57
Batch No.: 0000266903
Manufactured Date: 2020/05/05
Retest Date: 2027/05/04
Revision No: 1

Certificate of Analysis

Test	Specification	Result
Assay ($CH_3(CH_2)_{14}CH_3$) (by GC)	>= 99.0 %	99.3
Infrared Spectrum	Passes Test	PT

For Laboratory, Research or Manufacturing Use

Country of Origin: US
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

ThermoFisher SCIENTIFIC

Certificate of Analysis

W2666 Recived on 02/10/2020 by AP

Product No.: 87683

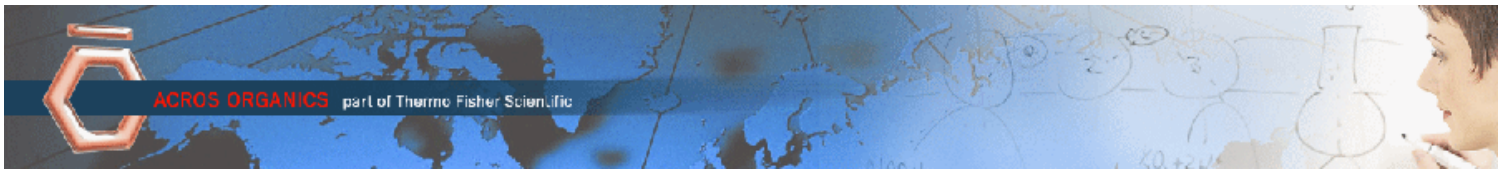
Product: Sodium pentacyanonitrosylferrate(III) dihydrate, ACS, 99.0-102.0%

Lot No.: W12F013

Test	Limits	Results
Assay	99.0 - 102.0 %	99.67 %
Insoluble	0.01 % max	0.0079 %
Chloride	0.02 % max	Not detected
Sulfate	To pass test	Passes test
Aqueous solubility	To pass test	Passes test
Limit on Ferricyanide	To pass test	Passes test
Limit on Ferrocyanide	To pass test	Passes test

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

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



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

ThermoFisher SCIENTIFIC

W2817
Rec. 04/02/2021

Product Specification

Product Name: Stearic acid, 98%, Thermo Scientific Chemicals
Catalog Number: A12244.14

CAS Number:	57-11-4
Molecular Formula:	C18H36O2
Molecular Weight:	284.48
InChI Key:	QIQXTHQIDYTFRH-UHFFFAOYSA-N
SMILES:	CCCCCCCCCCCCCCCCCC(O)=O
Synonym:	stearic acid acide stearique hydrofol acid 1855 hydrofol acid 1655 industrene 5016 stearic acid, ion(1-) (8CI) glycon TP glycon DP acidum stearinicul hydrofol acid 150

Product Specification

Appearance (Color):	White
Form:	Crystals or powder or crystalline powder or flakes or waxy solid
Assay (Silylated GC):	≥97.5%
Melting Point (clear melt):	67.0-74.0?C

Date Of Print: 11/30/2023

Product Specifications are subject to amendment and may change over time. Data contained is accurate as of the date printed.

CERTIFICATE OF ANALYSIS

Product Name	ISOPROPYL ALCOHOL, 99%
Grade	Meets ACS/USP/NF Monographs
Catalog #	231000099, zp231000099
Lot #	C20F23007
Date of Manufacture:	06/23/20
Recommended Retest Date:	Five Years from Date of Manufacture

W2788 Received on 12/30/2020 by AP

TEST	MONO GRAPH	SPECIFICATION	RESULT
Assay (corrected for water)	USP	99.0% min	99.92%
Assay (corrected for water)	ACS	99.5% min	
Solubility in water	ACS+	To Pass Test	Pass
Appearance	ACS+	Clear, colorless liquid	Pass
Color, APHA	ACS	10 max	1
Limit of Nonvolatile Residue	USP+	NMT 2.5 mg (0.005%)	0.1 mg
Residue after Evaporation	ACS+	0.001% max	< 0.001%
Specific Gravity	USP	0.783 - 0.787 @25°C	0.783
Identification A - Infrared Absorption	USP	To Pass Test	Pass
Identification B	USP	To Pass Test	Pass
Refractive Index @ 20°C	USP	1.376-1.378	1.377
Acidity	USP+	NMT 0.70 ml of 0.020N NaOH is required	0.30 mL
Titrable Acid or Base	ACS+	0.0001 meq/g max	0.0001 meq/g
Carbonyl Compounds	ACS	Propionaldehyde 0.002% max	< 0.002%
		Acetone 0.002% max	None Detected
Limit of Volatile Impurities	USP	Diethyl Ether NMT 0.1%	< 0.1%
		Acetone NMT 0.1%	None Detected
		Diisopropyl Ether NMT 0.1%	< 0.1%
		n-Propyl Alcohol NMT 0.1%	< 0.1%
		2-Butanol NMT 0.1%	< 0.1%
		Total NMT 1.0%	< 0.1%
Water, wt%	ACS	NMT 0.2%	0.05%
Water Determination	USP	NMT 0.5%	

+ This test is performed quarterly

58 Vale Road, Brookfield, Connecticut, 06804, USA | P. 800.243.5360
www.pharmco.com | www.greenfield.com

Certification and Compliance Statements

This lot of Isopropyl Alcohol complies with all of the current requirements listed in the United States Pharmacopeia, American Chemical Society monographs and the National Formulary.
No chemicals whatsoever are used as solvents at any point in the manufacture, processing or packaging of Isopropyl Alcohol. Only Class 2 and Class 3 residual solvents may appear as impurities / related substances / low level contaminants in IPA Concentration of Class 2 Option 1 and Class 3 residual solvents is below limits in the current USP/NF General Chapter <467>.
This product is not derived, nor does it come in contact with, any materials derived from bovine or other animal sources.
This product is for further commercial manufacturing, laboratory or research use, and may be used as an excipient or a process solvent for pharmaceutical purposes. It is not intended for use as an active ingredient in drug manufacturing nor as a medical device or disinfectant. Appropriate/legal use of this product is the responsibility of the user.

Approved by: D. Simoncelli, Quality Control Chemist

Date of Approval: 06/23/2020

58 Vale Road, Brookfield, Connecticut, 06804, USA | P. 800.243.5360
www.pharmco.com | www.greenfield.com

Sigma-Aldrich

W3009

rec. 2/27/2023 12

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:
Hexadecane - ReagentPlus® , 99%

Product Number:	**H6703**
Batch Number:	**SHBP8192**
Brand:	SIAL
CAS Number:	544-76-3
MDL Number:	MFCD00008998
Formula:	C16H34
Formula Weight:	226.44 g/mol
Quality Release Date:	04 AUG 2022

$CH_3(CH_2)_{14}CH_3$

Test	Specification	Result
Appearance (Color)	Colorless or White	Colorless
Appearance (Form)	Liquid or Solid	Liquid
Infrared Spectrum	Conforms to Structure	Conforms
Refractive index at 20 ° C	1.432 - 1.436	1.435
Purity (GC)	≥ 98.5 %	99.3 %
Color Test	≤ 20 APHA	< 5 APHA

Larry Coers, Director
Quality Control
Sheboygan Falls, WI US

Sigma-Aldrich.

W 3035
Lec. 6/6/23 12

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:
Ammonium persulfate - ACS reagent, ≥98.0%

Product Number:	**248614**
Batch Number:	**MKCR9319**
Brand:	SIGALD
CAS Number:	7727-54-0
MDL Number:	MFCD00003390
Formula Weight:	228.20 g/mol
Quality Release Date:	13 OCT 2022

$(NH_4)_2S_2O_8$

Test	Specification	Result
Appearance (Color)	White to Off White	White
Appearance (Form)	Powder or Crystals or Granules or Chunks	Crystals
ICP Major Analysis Confirms Sulfur Component	Confirmed	Confirmed
Titration by KMNO4	≥ 98.0 %	100.0 %
Residue on ignition (Ash)	≤ 0.05 %	< 0.05 %
Insoluble Matter c = 10 %; In Water	≤ 0.005 %	0.002 %
Chloride and Chlorate (as Cl)	≤ 0.001 %	< 0.001 %
Iron (Fe)	≤ 0.001 %	< 0.001 %
Heavy Metal as Lead	≤ 0.005 %	< 0.001 %
Manganese (Mn)	≤ 0.5 ppm	< 0.1 ppm
Titratable Acid (meq/g)	≤ 0.04	< 0.04
Meets ACS Requirements	Current ACS Specification	Conforms

Larry Coers, Director
Quality Control
Milwaukee, 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.

PRODUCTOS QUIMICOS MONTERREY, S.A. DE C.V.

MIRADOR 201, COL. MIRADOR
MONTERREY, N.L. MÉXICO
CP 64070
TEL +52 81 13 52 57 57
www.pqm.com.mx

CERTIFICATE OF ANALYSIS

PRODUCT :	SODIUM SULFATE CRYSTALS ANHYDROUS		
QUALITY :	ACS (CODE **RMB3375)**	FORMULA :	Na_2SO_4
SPECIFICATION NUMBER:	6399	RELEASE DATE:	MAY/23/2024
LOT NUMBER :	417203		

TEST	SPECIFICATIONS	LOT VALUES
Assay (Na_2SO_4)	Min. 99.0%	99.8 %
pH of a 5% solution at 25°C	5.2 - 9.2	6.2
Insoluble matter	Max. 0.01%	0.001 %
Loss on ignition	Max. 0.5%	0.1 %
Chloride (Cl)	Max. 0.001%	<0.001 %
Nitrogen compounds (as N)	Max. 5 ppm	<5 ppm
Phosphate (PO_4)	Max. 0.001%	<0.001 %
Heavy metals (as Pb)	Max. 5 ppm	<5 ppm
Iron (Fe)	Max. 0.001%	<0.001 %
Calcium (Ca)	Max. 0.01%	0.001 %
Magnesium (Mg)	Max. 0.005%	0.001 %
Potassium (K)	Max. 0.008%	0.001 %
Extraction-concentration suitability	Passes test	Passes test
Appearance	Passes test	Passes test
Identification	Passes test	Passes test
Solubility and foreing matter	Passes test	Passes test
Retained on US Standard No. 10 sieve	Max. 1%	0.2 %
Retained on US Standard No. 60 sieve	Min. 94%	96.2 %
Through US Standard No. 60 sieve	Max. 5%	3.5 %
Through US Standard No. 100 sieve	Max. 10%	0.1 %

COMMENTS

QC: PhC Irma Belmares

If you need further details, please call our factory or contact our local distributor.

E 3875

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™ | J.T.Baker

Material No.: 9254-03
Batch No.: 24H1462005
Manufactured Date: 2024-05-24
Expiration Date:2027-05-24
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected forwater)	>= 99.4 %	99.8 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.2 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titrable Acid (µeq/g)	<= 0.3	0.2
Titrable Base (µeq/g)	<= 0.6	<0.1
Water (H_2O)	<= 0.5 %	0.2 %
FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL)	<= 5	<1
ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL)	<= 10	1

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

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

E3972

JCroak
Jamie Croak
Director Quality Operations, Bioscience Production

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

Avantor Performance Materials LLC

R: 8/19/24 M6069

MACHEREY-NAGEL

Certificate of Analysis

Product information

Product	pH-Fix 0.3-2.3
REF	92180
LOT	80A0441
Expiration date:	29.02.2028
Date of examination:	23.01.2024
Gradation:	pH 0.3-0.7-1.0-1.3-1.6-1.9-2.3

Confirmation

Hereby we confirm, that the above mentioned product has successfully passed our quality control system in accordance with ISO 9001 and meets the specific quality criteria.

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

MACHEREY-NAGEL GmbH & Co. KG
Valencienner Str. 11
52355 Düren · Germany
www.mn-net.com

DE Tel.: +49 24 21 969-0 info@mn-net.com
CH Tel.: +41 62 388 55 00 sales-ch@mn-net.com
FR Tel.: +33 388 68 22 68 sales-fr@mn-net.com
US Tel.: +1 888 321 62 24 sales-us@mn-net.com

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

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

avantor™ | J.T.Baker®

M6186

Recien Date 8- 08/06/25

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

Certificate of Analysis

Test	Specification	Result
ACS - Assay (H_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

For questions on this Certificate of Analysis please contact Technical Services at 855 282 6867 or +1 610 286 1700

Certificate of analysis

W3082 Received on 2/26/2026 by IZ

Product No.:	A12244
Product:	Stearic acid, 98%
Lot No.:	U23E020

Appearance	White flakes
Assay	98.7 %

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

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®

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.

spectrum® CHEMICAL MFG CORP

Certificate Of Analysis

Item Number	ED150	Lot Number	2ND0156
Item	Edetate Disodium, Dihydrate, USP	CAS Number	6381-92-6
Molecular Formula	$C_{10}H_{14}N_2Na_2O_8 \cdot 2H_2O$	Molecular Weight	372.24

TEST	SPECIFICATION		RESULT
	MIN	MAX	
ASSAY (DRIED BASIS)	99.0	101.0 %	99.5 %
pH OF A 5% SOLUTION @ 25°C	4.0	6.0	4.6
LOSS ON DRYING	8.7	11.4 %	8.90 %
CALCIUM (Ca)	NO PRECIPITATE IS FORMED		NO PRECIPITATE IS FORMED
ELEMENTAL IMPURITIES:			.
NICKEL (Ni)	AS REPORTED		<0.3 ppm
CHROMIUM (Cr)	AS REPORTED		<0.3 ppm
NITRILOTRIACETIC ACID[$n[(HOCOCH_2)_3N]$]		0.1 %	<0.10 %
IDENTIFICATION A	MATCHES REFERENCE		MATCHES REFERENCE
IDENTIFICATION B	RED COLOR IS DISCHARGED, LEAVING A YELLOWISH SOLUTION		RED COLOR IS DISCHARGED, LEAVING A YELLOWISH SOLUTION
IDENTIFICATION C	MEETS THE REQUIREMENTS FOR SODIUM		MEETS THE REQUIREMENTS FOR SODIUM
CERTIFIED HALAL			CERTIFIED HALAL
EXPIRATION DATE			10-JUL-2026
DATE OF MANUFACTURE			11-JUL-2023
APPEARANCE			WHITE CRYSTALLINE POWDER
RESIDUAL SOLVENTS		AS REPORTED	NO RESIDUAL SOLVENTS PRESENT
MONOGRAPH EDITION			USP 2024

Certificate of Analysis Results Entered By:

CACEVEDO
Charmian Acevedo
22-MAY-24 08:12:30

Certificate of Analysis Results Approved By:

GHERRERA
Genaro Herrera
22-MAY-24 12:32:01

Spectrum Chemical Mfg Corp
755 Jersey Avenue
New Brunswick 08901 NJ

All pharmaceutical ingredients are tested using current edition of applicable pharmacopeia.

Read and understand label and SDS before handling any chemicals. All Spectrum's chemicals are for manufacturing, processing, repacking or research purposes by experienced personnel only. It is the customer's responsibility to provide adequate hazardous material training and ensure that appropriate Personal Protective Equipment (PPE) is used before handling any chemical.

The Elemental Impurities standards implemented by USP and other Pharmaceutical Compendia reflect a growing understanding of the toxicology of trace levels of elemental impurities that can remain in drug substances originating from either raw materials or manufacturing processes. Identifying and quantifying impurities can be critical to predicting the best possible patient outcomes. Elemental Impurities has been a requirement of all products meeting USP/NF, EP and BP monographs since January 1, 2018. More information can be found in USP sections <232> Elemental Impurities – Limits and <233> Elemental Impurities – Procedures. Data for drug substances furnished by Spectrum Chemical Mfg. Corp can be used to ensure that patient daily exposures by oral administration to the selected elements are not exceeded in the formulation of pharmaceutical products.

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

W3195 Received on 03/19/2025 by IZ

Certificate of Analysis

Material	BDH9208-500G
Material Description	BDH AMMONIUM CHLORIDE ACS 500G
Grade	U S P REAGENT (ACS GRADE)
Batch	24L0356561
Reassay Date	08/31/2027
CAS Number	12125-02-9
Molecular Formula	NH4Cl
Molecular Mass	53.49
Date of Manufacture	08/01/2024
Storage	Room Temperature

Characteristics	Specifications	Measured Values
Appearance	White granular powder	White granular powder
Calcium	<= 0.001 %	0.001 %
Heavy Metals (as Pb)	<= 0.0005 %	<0.0002 %
Insolubles	<= 0.005 %	0.001 %
Iron	<= 0.0002 %	<0.0002 %
Magnesium	<= 0.0005 %	0.0001 %
pH (5%, Water) @25C	4.5 - 5.5	4.8
Phosphate	<= 0.0002 %	<0.0002 %
Purity	>= 99.5 %	99.8 %
Residue on Ignition	<= 0.01 %	0.003 %
Sulfate	<= 0.002 %	<0.002 %

Extra Description: Meets Reagent Specifications for testing USP/NF monographs

Internal ID #: 710

Signature

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

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

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

Additional Information

Analysis may have been rounded to significant digits in specification limits

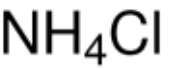
Product meets analytical specifications of the grades listed.

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

W3196 Received on 03/19/2025 by IZ

Certificate of Analysis

Product Name:
Ammonium chloride - ACS reagent, ≥99.5%



Product Number:	**213330**
Batch Number:	**MKCV1009**
Brand:	SIGALD
CAS Number:	12125-02-9
MDL Number:	MFCD00011420
Formula:	H4ClN
Formula Weight:	53.49 g/mol
Quality Release Date:	23 OCT 2023
Recommended Retest Date:	SEP 2026

Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder or Crystals or Chunk(s)	Crystals
Titration by AgNO3	≥ 99.5 %	100.2 %
pH @ 25 Deg c (5% Solution)	4.5 - 5.5	4.9
Insoluble Matter 10%, H2O	≤ 0.005 %	0.001 %
Residue on ignition (Ash)	≤ 0.01 %	< 0.01 %
Calcium (Ca)	≤ 0.001 %	< 0.001 %
Magnesium (Mg)	≤ 5 ppm	1 ppm
Heavy Metals by ICP	≤ 5 ppm	< 1 ppm
Iron (Fe)	≤ 2 ppm	< 1 ppm
Phosphate (PO4)	≤ 2 ppm	< 2 ppm
Sulfate (SO4)	≤ 0.002 %	< 0.002 %
Meets ACS Requirements	Current ACS Specification	Conforms
Recommended Retest Period 3 Years	----------	----------

Larry Coers, Director

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 Number: **213330**
Batch Number: **MKCV1009**

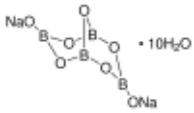
Quality Control
Milwaukee, WI US

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

W3201 Received on 4/16/25 by IZ

Certificate of Analysis

Product Name:
Sodium tetraborate decahydrate - ACS reagent, ≥99.5%



Product Number:	**S9640**
Batch Number:	**BCCL9613**
Brand:	SIGALD
CAS Number:	1303-96-4
Formula:	B4Na2O7 · 10H2O
Formula Weight:	381,37 g/mol
Quality Release Date:	05 JUL 2024
Recommended Retest Date:	MAY 2029

Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder or Crystals	Powder
Titration with NaOH	99.5 - 105.0 %	100.7 %
pH	9.15 - 9.20	9.20
0.01 m Solution at 25 Deg C		
Meets ACS Requirements	Corresponds to Requirements	Corresponds
ACS Specifications	Corresponds to Requirements	Corresponds
Insoluble Matter <= 0.005% / Heavy		
Metals (As Pb) <= 0.001%		
Calcium (Ca)	≤ 50 mg/kg	< 50 mg/kg
Iron (Fe)	≤ 5 mg/kg	< 5 mg/kg
Total Sulfur	≤ 50 mg/kg	< 50 mg/kg
as SO4 (ICP)		
Chloride (Cl)	≤ 10 mg/kg	< 10 mg/kg
Phosphate (PO4)	≤ 10 mg/kg	< 10 mg/kg

Dr.Reinhold Schwenninger
Quality Assurance
Buchs,Switzerland CH

W3202 Received on 4/16/25 by IZ

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:
Potassium phosphate monobasic - ACS reagent, ≥99.0%

KH_2PO_4

Product Number:	**P0662**
Batch Number:	**MKCW6723**
Brand:	SIGALD
CAS Number:	7778-77-0
MDL Number:	MFCD00011401
Formula:	H2KO4P
Formula Weight:	136.09 g/mol
Quality Release Date:	16 OCT 2024
Recommended Retest Date:	OCT 2028

Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder or Crystals	Crystals
Assay	≥ 99.0 %	99.8 %
Insoluble Matter	≤ 0.01 %	< 0.01 %
Loss on Drying At 105ºC	≤ 0.2 %	< 0.1 %
pH (c = 5%, 25 deg C)	4.1 - 4.5	4.5
Chloride Content	≤ 0.001 %	< 0.001 %
Sulfate (SO4)	≤ 0.003 %	< 0.003 %
Heavy Metals by ICP	≤ 0.001 %	< 0.001 %
Iron (Fe)	≤ 0.002 %	< 0.001 %
Sodium (Na)	≤ 0.005 %	< 0.001 %
Recommended Retest Period 4 Years	----------	----------

Larry Coers, Director
Quality Control
Milwaukee, WI US

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:
Potassium phosphate monobasic - ACS reagent, ≥99.0%

KH_2PO_4

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

Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder or Crystals	Crystals
Assay	≥ 99.0 %	99.9 %
Insoluble Matter	≤ 0.01 %	< 0.01 %
Loss on Drying At 105ºC	≤ 0.2 %	< 0.1 %
pH (c = 5%, 25 deg C)	4.1 - 4.5	4.5
Chloride Content	≤ 0.001 %	< 0.001 %
Sulfate (SO4)	≤ 0.003 %	< 0.003 %
Heavy Metals by ICP	≤ 0.001 %	< 0.001 %
Iron (Fe)	≤ 0.002 %	< 0.001 %
Sodium (Na)	≤ 0.005 %	< 0.001 %
Recommended Retest Period 4 Years	----------	----------

Larry Coers, Director
Quality Control
Milwaukee, WI US

RICCA CHEMICAL COMPANY®

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

Certificate of Analysis

Sodium Hypochlorite Solution, 5% available Chlorine

Lot Number: 2506M51 **Product Number:** 7495.5

Manufacture Date: JUN 18, 2025
Expiration Date: DEC 2025

This solution is subject to slow decomposition upon exposure to air. Keep container tightly capped. Refrigeration may improve stability. When used in the Phenate method for Ammonia, APHA recommends replacing this solution about every 2 months.

Name	CAS#	Grade
Water	7732-18-5	Commercial
Sodium Hypochlorite	7681-52-9	Commercial

Test	Specification	Result	NIST SRM#
Appearance	Colorless to greenish-yellow liquid	Passed	
Assay (vs. Sodium Thiosulfate/Starch)	4.75-5.25 % (w/w) Cl_2	5.17 % (w/w) Cl_2	136

Specification	Reference
Sodium Hypochlorite, 5%	APHA (4500-NH3 F)
Sodium Hypochlorite	ASTM (D 4785)

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)
7495.5-1	4 L black poly	6 months
7495.5-16	500 mL amber poly	6 months
7495.5-32	1 L amber poly	6 months

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

Jose Pena (06/18/2025)
Operations Manager

n-Hexane 95%
ULTRA RESI-ANALYZED
For Organic Residue Analysis

avantor™ | J.T.Baker

W3240
JP
Opened: 07/15/2025

Material No.: 9262-03
Batch No.: 25C0362006
Manufactured Date: 2025-01-29
Expiration Date:2026-04-30
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL)	<= 5	1
ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL)	<= 10	6
ECD-Sensitive Impurities (as EthyleneDibromide) - Single Impurity Peak (ng/mL)	<= 5	4
Assay (Total Saturated C_6 Isomers) (byGC, corrected for water)	>= 99.5 %	100.0 %
Assay (as n-Hexane) (by GC, correctedfor water)	>= 95 %	100 %
Color (APHA)	<= 10	10
Residue after Evaporation	<= 1.0 ppm	0.2 ppm
Substances Darkened by H_2SO_4	Passes Test	Passes Test
Water (by KF, coulometric)	<= 0.05 %	<0.01 %

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

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

JCroak

Jamie Croak
Director Quality Operations, Bioscience Production

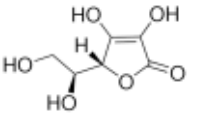
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

W3243 Received on 10/3/25 by IZ

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:
L-Ascorbic acid - ACS reagent, ≥99%



Product Number:	**255564**
Batch Number:	**MKCX1143**
Brand:	SIAL
CAS Number:	50-81-7
MDL Number:	MFCD00064328
Formula:	C6H8O6
Formula Weight:	176.12 g/mol
Quality Release Date:	17 JAN 2025
Recommended Retest Date:	JAN 2028

Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder or Crystals or Granules or Chunks	Powder
Infrared Spectrum	Conforms to Structure	Conforms
Optical Rotation (+); c = 10%; Water	20.5 - 21.5 deg	21.0 deg
Titration by Iodine	≥ 99.0 %	100.0 %
Residue on Ignition	≤ 0.10 %	0.02 %
Iron (Fe)	≤ 0.001 %	< 0.001 %
Heavy Metals by ICP-OES	≤ 0.002 %	0.001 %
Recommended Retest Period 3 Years	----------	----------
Meets ACS Requirements	Current ACS Specification	Conforms

Larry Coers, Director
Quality Control
Milwaukee, WI US

RICCA CHEMICAL COMPANY®

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

W3248 Received on 10/08/25 by IZ

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-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
7900-32	1 L natural poly	18 months

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

Jose Pena (09/03/2025)
Operations Manager

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 072505 • Mfg. Date: 05/2025 • Exp. Date: 05/2027

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 $x10^9$ 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: 203

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 specifications.

Signature: _____ **Date**: 05/07/2025

Quality Control Department

POLYSEED.Ref.1.19 Revised Jan 25

InterLab® International Laboratory Supply

ISO 9002 DNV Certification, Inc. REGISTERED FIRM

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 A5219

PRODUCT: BOD Nutrient Buffer Pillows

PRODUCT NUMBER: 1486227

LOT NUMBER: A5219

MANUFACTURE DATE: 08/26/2025

DATE OF ANALYSIS: 09/15/2025

TEST	SPECIFICATIONS	RESULTS
Ammonia Concentration of a diluted pillow	0.57 to 0.79 ppm	0.581
Calcium Concentration of a diluted pillow	0.93 to 1.29 ppm	1.050
Iron Concentration of a diluted pillow	0.27 to 0.36 ppm	0.323
Magnesium Concentration of a diluted pillow	0.35 to 0.48 ppm	0.400
Phosphorus Concentration of a diluted pillow	7.6 to 10.3 ppm	8.85
pH in a 6 L of DI water	7.1 to 7.6 ph	7.20
Five Day Change in Dissolved Oxygen Concentration	-0.2 to 0.2 ppm	0.15
Sterility	To Pass	Passed

The expiration date is Aug 2030

Certified by: Scott Als

Analytical Service 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. Q3701
COC Number 2046956

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Holland Manufacturing Co.
ADDRESS: 15 Main St.
CITY Succasunna STATE: NJ ZIP: 07876
ATTENTION:
PHONE: FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: HMC Pretreatment
PROJECT NO.: LOCATION:
PROJECT MANAGER: Todd Holland
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: ______ 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)
- ❑ EDD FORMAT
- ❑ Level 4 (QC + Full Raw Data)
- ❑ NJ Reduced ❑ US EPA CLP
- ❑ NYS ASP A ❑ NYS ASP B
- ❑ Other

ANALYSIS

1: BOD5; 2: TSS; 3: PO4; 4: Total P; 5: NH3; 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	1 (E)	2 (E)	3 (C)	4 (C)	5 (C)	6 (C)	7	8	9	COMMENTS
1.	Effluent	W		✓	11/20/25	1:30		✓	✓	✓	✓	✓	✓				
2.	Aeration	W		✓	11/20/25	1:30			✓								
3.	Influent	W		✓	11/20/25	1:30		✓					✓				
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

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

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

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. [signature]	11/20/25 1:41 / 1555	1. [signature]
2.		2.
3.		3.

Conditions of bottles or coolers at receipt: ❑ COMPLIANT ❑ NON COMPLIANT ❑ COOLER TEMP 2.4 °C
Comments: Lab to Filter
IR Gun #1

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