

DATA REPORTING QUALIFIERS- INORGANIC

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

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

LAB CHRONICLE

OrderID:	Q1101	OrderDate:	1/15/2025 2:41:00 PM
Client:	Holland Manufacturing Co.	Project:	Pre Treatment Plant
Contact:	Todd Holland	Location:	M11

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1101-01	EFFLUENT	WATER			01/15/25 13:00			01/15/25
			Ammonia	SM4500-NH3		01/16/25	01/16/25 11:10	
			BOD5	SM5210 B			01/16/25 16:50	
			Oil and Grease	1664A			01/16/25 09:00	
			Phosphorus-Ortho	SM4500-P E			01/15/25 16:36	
			Phosphorus-Total	365.3		01/16/25	01/16/25 12:06	
			TSS	SM2540 D			01/16/25 09:30	
Q1101-01DL	EFFLUENTDL	WATER			01/15/25 13:00			01/15/25
			Ammonia	SM4500-NH3		01/16/25	01/16/25 11:37	
Q1101-04	AERATION 1	WATER			01/15/25 13:00			01/15/25
			TSS	SM2540 D			01/16/25 09:30	
Q1101-05	INFLUENT	WATER			01/15/25 13:00			01/15/25
			Ammonia	SM4500-NH3		01/16/25	01/16/25 11:10	
			BOD5	SM5210 B			01/16/25 16:50	

LAB CHRONICLE

Q1101-05DL

INFLUENTDL

WATER

**01/15/25
13:00**

01/15/25

Ammonia

SM4500-NH3

01/16/25

01/16/25
11:37



SAMPLE DATA

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	01/15/25 13:00
Project:	Pre Treatment Plant	Date Received:	01/15/25
Client Sample ID:	EFFLUENT	SDG No.:	Q1101
Lab Sample ID:	Q1101-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	472	OR	1	2.30	5.00	mg/L	01/16/25 08:45	01/16/25 11:10	SM 4500-NH3 B plus G-11
BOD5	4880		1	0.17	2.00	mg/L		01/16/25 16:50	SM 5210 B-16
Oil and Grease	13.4		1	0.40	5.00	mg/L		01/16/25 09:00	1664A
Orthophosphate as P	0.048	J	1	0.0040	0.050	mg/L		01/15/25 16:36	SM 4500-P E-11
Phosphorus, Total	0.076		1	0.0050	0.050	mg/L	01/16/25 09:00	01/16/25 12:06	365.3
TSS	756		1	1.00	4.00	mg/L		01/16/25 09:30	SM 2540 D-15

Comments:

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

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

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	01/15/25 13:00
Project:	Pre Treatment Plant	Date Received:	01/15/25
Client Sample ID:	EFFLUENTDL	SDG No.:	Q1101
Lab Sample ID:	Q1101-01DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	479	D	10	22.5	50.0	mg/L	01/16/25 08:45	01/16/25 11:37	SM 4500-NH3 B plus G-11

Comments: _____

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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

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

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	01/15/25 13:00
Project:	Pre Treatment Plant	Date Received:	01/15/25
Client Sample ID:	AERATION 1	SDG No.:	Q1101
Lab Sample ID:	Q1101-04	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
TSS	2010		1	1.00	4.00	mg/L		01/16/25 09:30	SM 2540 D-15

Comments: _____

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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

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

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	01/15/25 13:00
Project:	Pre Treatment Plant	Date Received:	01/15/25
Client Sample ID:	INFLUENT	SDG No.:	Q1101
Lab Sample ID:	Q1101-05	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	151	OR	1	2.30	5.00	mg/L	01/16/25 08:45	01/16/25 11:10	SM 4500-NH3 B plus G-11
BOD5	9100		1	0.17	2.00	mg/L		01/16/25 16:50	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

Report of Analysis

Client:	Holland Manufacturing Co.	Date Collected:	01/15/25 13:00
Project:	Pre Treatment Plant	Date Received:	01/15/25
Client Sample ID:	INFLUENTDL	SDG No.:	Q1101
Lab Sample ID:	Q1101-05DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	155	D	2	4.50	10.0	mg/L	01/16/25 08:45	01/16/25 11:37	SM 4500-NH3 B plus G-11

Comments: _____

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

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

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

OR = Over Range

N =Spiked sample recovery not within control limits



QC RESULT SUMMARY

Initial and Continuing Calibration Verification

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

RunNo.: LB134295

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Orthophosphate as P	mg/L	0.511	0.50	102	90-110	01/15/2025
Sample ID: CCV1 Orthophosphate as P	mg/L	0.509	0.5	102	90-110	01/15/2025
Sample ID: CCV2 Orthophosphate as P	mg/L	0.506	0.5	101	90-110	01/15/2025

Initial and Continuing Calibration Verification

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

RunNo.: LB134305

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 Ammonia as N	mg/L	1	1	100	90-110	01/16/2025
Sample ID: CCV1 Ammonia as N	mg/L	1	1	100	90-110	01/16/2025
Sample ID: CCV2 Ammonia as N	mg/L	1	1	100	90-110	01/16/2025
Sample ID: CCV3 Ammonia as N	mg/L	1	1	100	90-110	01/16/2025

Initial and Continuing Calibration Verification

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

RunNo.: LB134307

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Phosphorus, Total	mg/L	0.483	0.50	97	90-110	01/16/2025
Sample ID: CCV1 Phosphorus, Total	mg/L	0.489	0.50	98	90-110	01/16/2025
Sample ID: CCV2 Phosphorus, Total	mg/L	0.480	0.50	96	90-110	01/16/2025

Initial and Continuing Calibration Verification

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

RunNo.: LB134307

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
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Initial and Continuing Calibration Blank Summary

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

RunNo.: LB134295

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB Orthophosphate as P	mg/L	< 0.0250	0.0250	U	0.0040	0.05	01/15/2025
Sample ID: CCB1 Orthophosphate as P	mg/L	< 0.0250	0.0250	U	0.0040	0.05	01/15/2025
Sample ID: CCB2 Orthophosphate as P	mg/L	< 0.0250	0.0250	U	0.0040	0.05	01/15/2025

Initial and Continuing Calibration Blank Summary

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

RunNo.: LB134305

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 Ammonia as N	mg/L	< 0.0500	0.0500	U	0.045	0.1	01/16/2025
Sample ID: CCB1 Ammonia as N	mg/L	< 0.0500	0.0500	U	0.045	0.1	01/16/2025
Sample ID: CCB2 Ammonia as N	mg/L	< 0.0500	0.0500	U	0.045	0.1	01/16/2025
Sample ID: CCB3 Ammonia as N	mg/L	< 0.0500	0.0500	U	0.045	0.1	01/16/2025

Initial and Continuing Calibration Blank Summary

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

RunNo.: LB134307

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB Phosphorus, Total	mg/L	0.010	0.0250	J	0.0047	0.05	01/16/2025
Sample ID: CCB1 Phosphorus, Total	mg/L	0.010	0.0250	J	0.0047	0.05	01/16/2025
Sample ID: CCB2 Phosphorus, Total	mg/L	0.010	0.0250	J	0.0047	0.05	01/16/2025

Initial and Continuing Calibration Blank Summary

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

RunNo.: LB134307

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
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Preparation Blank Summary

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB134295BL							
Orthophosphate as P	mg/L	< 0.0250	0.0250	U	0.004	0.05	01/15/2025
Sample ID: LB134299BL							
Oil and Grease	mg/L	< 2.5000	2.5000	U	0.4	5.0	01/16/2025
Sample ID: LB134301BL							
BOD5	mg/L	< 0.2000	0.2000	U	0.17	2.0	01/16/2025
Sample ID: LB134304BL							
TSS	mg/L	< 2.0000	2.0000	U	1	4	01/16/2025
Sample ID: PB166064BL							
Ammonia as N	mg/L	< 0.0500	0.0500	U	0.045	0.1	01/16/2025
Sample ID: PB166065BL							
Phosphorus, Total	mg/L	0.01	0.0250	J	0.005	0.05	01/16/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1070-01
Client ID:	1 EFFLUENT COMPOSITEMS	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	76.7		27.4		50	1	99		01/16/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1070-01
Client ID:	1 EFFLUENT COMPOSITMSD	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	74.2		27.4		50	1	94		01/16/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1070-02
Client ID:	2 EFFLUENT GRABMS	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	21.0		1.30	J	20.0	1	98		01/16/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1070-02
Client ID:	2 EFFLUENT GRABMSD	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	20.8		1.30	J	20.0	1	98		01/16/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1101-01
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
Phosphorus, Total	mg/L	90-110	0.49		0.076		0.5	1	83	*	01/16/2025
Orthophosphate as P	mg/L	90-110	0.57		0.048	J	0.5	1	104		01/15/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1101-01
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
Phosphorus, Total	mg/L	90-110	0.49		0.076		0.5	1	83	*	01/16/2025
Orthophosphate as P	mg/L	90-110	0.56		0.048	J	0.5	1	103		01/15/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1101-01
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	33.4		13.4		20.0	1	100		01/16/2025

Matrix Spike Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1101-01
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	33.0		13.4		20.0	1	98		01/16/2025

Duplicate Sample Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1070-01
Client ID:	1 EFFLUENT COMPOSITEDUP	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Ammonia as N	mg/L	+/-20	27.4		27.2		1	1		01/16/2025

Duplicate Sample Summary

Client: Holland Manufacturing Co.	SDG No.: Q1101
Project: Pre Treatment Plant	Sample ID: Q1070-01
Client ID: 1 EFFLUENT COMPOSITMSD	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
Ammonia as N	mg/L	+/-20	76.7		74.2		1	3		01/16/2025

Duplicate Sample Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1070-02
Client ID:	2 EFFLUENT GRABMSD	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	21.0		20.8		1	0.96		01/16/2025

Duplicate Sample Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1083-01
Client ID:	001-WILLETS-PT-BLVD(DEC)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
TSS	mg/L	+/-5	33.8		34.0		1	0.59		01/16/2025

Duplicate Sample Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1100-02
Client ID:	COMPDUP	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
BOD5	mg/L	+/-20	706		700		1	0.87		01/16/2025

Duplicate Sample Summary

Client: Holland Manufacturing Co.	SDG No.: Q1101
Project: Pre Treatment Plant	Sample ID: Q1101-01
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	0.048	J	0.048	J	1	0		01/15/2025
Phosphorus, Total	mg/L	+/-20	0.076		0.079		1	3.87		01/16/2025

Duplicate Sample Summary

Client: Holland Manufacturing Co. Project: Pre Treatment Plant Client ID: EFFLUENTMSD	SDG No.: Q1101 Sample ID: Q1101-01 Percent Solids for Spike Sample: 0
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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	0.57		0.56		1	1.06		01/15/2025
Phosphorus, Total	mg/L	+/-20	0.49		0.49		1	0.41		01/16/2025

Duplicate Sample Summary

Client:	Holland Manufacturing Co.	SDG No.:	Q1101
Project:	Pre Treatment Plant	Sample ID:	Q1101-01
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	33.4		33.0		1	1.2		01/16/2025

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

Run No.: LB134295

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134295BS							
Orthophosphate as P	mg/L	0.5	0.51		102	1	90-110	01/15/2025

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

Run No.: LB134299

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134299BS							
Oil and Grease	mg/L	20.0	16.9		84	1	78-114	01/16/2025

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

Run No.: LB134301

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134301BS							
BOD5	mg/L	198	193		97	1	84.6-115.4	01/16/2025

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

Run No.: LB134304

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB134304BS							
TSS	mg/L	550	510		93	1	90-110	01/16/2025

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

Run No.: LB134305

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB166064BS							
Ammonia as N	mg/L	1	1.00		100	1	90-110	01/16/2025

Laboratory Control Sample Summary

Client: Holland Manufacturing Co.

SDG No.: Q1101

Project: Pre Treatment Plant

Run No.: LB134307

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB166065BS							
Phosphorus, Total	mg/L	0.50	0.48		97	1	90-110	01/16/2025



RAW DATA

Analytical Summary Report

Analysis Method: SM4500-P E

ANALYST: Niha

Parameter: Phosphorus-Ortho

SUPERVISOR REVIEW BY: Iwona

Run Number: LB134295

Reagent/Standard	Lot/Log #
calibration std. phosphate 1 ppm	WP111410
calibration std. phosphate 0.5 ppm	WP111408
calibration std. phosphate 0.3 ppm	WP111407
calibration std. phosphate 0.1 ppm	WP111406
calibration std. phosphate 0.05 ppm	WP111405
calibration std. 0 ppm	WP111404
phosphate CCV std.	WP111411
5N sulfuric acid	WP110380
Combined reagent	WP111414
Phenolphthalein indicator	WP111415
Sodium hydroxide, 1N	WP111323
Phosphate ICV-LCS Std	WP111412

Intercept: -0.0011

Slope: 0.6501

Regression: 0.999967

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		01/15/2025	16:30
2	CAL2	0.05	1	50	50	0.033	0.052	4	01/15/2025	16:30
3	CAL3	0.10	1	50	50	0.064	0.1	0	01/15/2025	16:31
4	CAL4	0.30	1	50	50	0.190	0.294	-2	01/15/2025	16:31
5	CAL5	0.50	1	50	50	0.324	0.5	0	01/15/2025	16:32
6	CAL6	1.00	1	50	50	0.650	1.002	0.2	01/15/2025	16:32

Analytical Summary Report

Analysis Method: SM4500-P E

ANALYST: Niha

Parameter: Phosphorus-Ortho

SUPERVISOR REVIEW BY: Iwona

Run Number: LB134295

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	0.331	0.511	01/15/2025	16:33
2	ICB		1	50	50	0.000	0.002	01/15/2025	16:33
3	CCV1	0.5	1	50	50	0.330	0.509	01/15/2025	16:34
4	CCB1		1	50	50	0.000	0.002	01/15/2025	16:34
5	RL Check	0.01	1	50	50	0.033	0.052	01/15/2025	16:35
6	LB134295BL		1	50	50	0.000	0.002	01/15/2025	16:35
7	LB134295BS	0.5	1	50	50	0.332	0.512	01/15/2025	16:36
8	Q1101-01		1	50	50	0.030	0.048	01/15/2025	16:36
9	Q1101-01DUP		1	50	50	0.030	0.048	01/15/2025	16:37
10	Q1101-01MS	0.5	1	50	50	0.368	0.568	01/15/2025	16:37
11	Q1101-01MSD	0.5	1	50	50	0.364	0.562	01/15/2025	16:38
12	CCV2	0.5	1	50	50	0.328	0.506	01/15/2025	16:38
13	CCB2		1	50	50	0.000	0.002	01/15/2025	16:39

LB134295

WORKLIST(Hardcopy Internal Chain)

WorkList Name : ORTHO P-01152025

WorkList ID : 186918

Department : Wet-Chemistry

Date : 01-15-2025 15:37:07

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1101-01	EFFLUENT	Water	Phosphorus-Ortho	Cool 4 deg C	HOLL01	M11	01/15/2025	SM4500-P E

Date/Time 01.15.2025, 15:40
Raw Sample Received by: NFWC
Raw Sample Relinquished by: J. Lee C

Date/Time 01.15.2025, 17:00
Raw Sample Received by: J. Lee C
Raw Sample Relinquished by: NFWC

Extraction and Analytical Summary Report

Analysis Method: 1664A
Test: Oil and Grease
Run Number: LB134299
Analysis Date: 01/16/2025
BalanceID: WC SC-6
OvenID: EXT OVEN-3

ANALYST: jignesh
REVIEWED BY: Iwona
Extraction Date: 01/16/2025
Extraction IN Time: 08:00
Extraction OUT Time: 08:20
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	LB134299BL	LB134299BL	WATER	1.3	1000	100	2.8963	2.8963	0	2.8964	2.8964	0.0001	0.1
2	LB134299BS	LB134299BS	WATER	1.3	1000	100	2.9103	2.9103	0	2.9272	2.9272	0.0169	16.9
3	Q1070-02	2 EFFLUENT GRAB	WATER	1.3	1000	100	3.0510	3.0510	0	3.0523	3.0523	0.0013	1.3
4	Q1070-03	Q1070-02MS	WATER	1.3	1000	100	2.7485	2.7485	0	2.7695	2.7695	0.0210	21
5	Q1070-04	Q1070-02MSD	WATER	1.3	1000	100	2.8163	2.8163	0	2.8371	2.8371	0.0208	20.8
6	Q1101-01	EFFLUENT	WATER	1.6	1000	100	3.0455	3.0455	0	3.0589	3.0589	0.0134	13.4
7	Q1101-02	Q1101-01MS	WATER	1.6	1000	100	3.1366	3.1366	0	3.1700	3.1700	0.0334	33.4
8	Q1101-03	Q1101-01MSD	WATER	1.6	1000	100	2.8874	2.8874	0	2.9204	2.9204	0.0330	33

QC Batch# LB134299

Test: Oil and Grease

Analysis Date: 01/16/2025

Chemicals Used:

Chemical Name	Chemical Lot #
HEXANE	W3110
pH Paper 0-14	M6069
Sodium Sulfate	EP2577
1:1 HCL	WP110826
Silica Gel	NA
Sand	NA

Standards Used:

Standard Name	Amount Used	Standard Lot #
LCSW	2.5 ML	WP100827
LCSWD	NA	NA
MS/MSD	2.5 ML	WP100828

BALANCE CALIBRATION / OVEN Dessicator Data

Analytical Balance ID # : WC SC-6

Before Analysis

0.0020 gram Balance: 0.0018 (0.0018-0.0022) In OVEN TEMP1 : 70 °C Dessicator Time In1 : 10:16

1.0000 gram Balance: 1.0004 (0.9950-1.0050) In Time1: 09:00

Bal Check Time: 08:10 Out OVEN TEMP1: 70 °C Dessicator Time Out1: 11:00

Out Time1: 10:15

After Analysis

0.0020 gram Balance: 0.0021 (0.0018-0.0022) In OVEN TEMP2 : 71 °C Dessicator Time In2 : 12:37

1.0000 gram Balance: 1.0005 (0.9950-1.0050) In Time2: 11:30

Bal Check Time: 13:20 Out OVEN TEMP2: 71 °C Dessicator Time Out2: 13:15

Out Time2: 12:05

WORKLIST(Hardcopy Internal Chain)

WorkList Name : oil & grease q1100

WorkList ID : 186925

Department : Wet-Chemistry

Date : 01-16-2025 07:46:21

132299

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1070-02	2 EFFLUENT GRAB	Water	Oil and Grease	Conc H2SO4 to pH < 2	M&MM01	M11	01/10/2025	1664A
Q1070-03	Q1070-02MS	Water	Oil and Grease	Conc H2SO4 to pH < 2	M&MM01	M11	01/10/2025	1664A
Q1070-04	Q1070-02MSD	Water	Oil and Grease	Conc H2SO4 to pH < 2	M&MM01	M11	01/10/2025	1664A
Q1101-01	EFFLUENT	Water	Oil and Grease	Conc H2SO4 to pH < 2	HOLL01	M11	01/15/2025	1664A
Q1101-02	Q1101-01MS	Water	Oil and Grease	Conc H2SO4 to pH < 2	HOLL01	M11	01/15/2025	1664A
Q1101-03	Q1101-01MSD	Water	Oil and Grease	Conc H2SO4 to pH < 2	HOLL01	M11	01/15/2025	1664A

Date/Time 01.16.25 07:50

Raw Sample Received by: SP

Raw Sample Relinquished by: SP

Date/Time 01.16.25 12:30

Raw Sample Received by: SP

Raw Sample Relinquished by: SP

BOD5 LOG

ANALYST: Niha

SUPERVISOR: Iwona

Analysis Date: 01/16/2025

MANGANOUS SULFATE SOLUTION: W3103

Alkaline Iodide Azide: W3109

Sodium Thiosulfate, 0.025N: W3105

NaOH, 1N: WP111323

IncubatorID: INCUBATOR #3

GuageID: 0511064

Zero DO: WP111324

QC BATCH ID: LB134301

BOD Water: WP111426

Starch: W3149

Sulfuric acid, 1N: WP110386

POLYSEED: WP111428

GGA: WP111427

Chlorine Strips: W3155

pH Strips: W3140

Lab SampleID	Client ID	Bottle No.	VOL. ML	Initial Reading (ML)	Final Reading (ML)	Difference	Average
WINKLER 1	WINKLER 1	1	300	0.0	9.8	9.8	9.8
WINKLER 2	WINKLER 2	2	300	9.9	19.7	9.8	9.8

Meter Calibration1: 9.85

Zero DO Reading1: 0.14 mg/L (<=0.2 Criteria)

Barometric Pressure1: 760 mmHg

DO Meter BOD fluid reading for winkler comparison: 9.94

After Incubation

Meter Calibration2: 9.93

Zero DO Reading2: 0.13 mg/L (<=0.2 Criteria)

Barometric Pressure2: 765 mmHg

QC BATCH ID: LB134301

INCUBATOR TEMP IN(C): 19.8

INCUBATOR TEMP OUT(C): 20.3

TIME IN: 16:50

TIME OUT: 14:00

DATE IN: 01/16/2025

DATE OUT: 01/21/2025

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
LB134301BL	1	No	6.57	N/A	20.70	300	9.93	9.92	0.01	0.01	0.01	
POLYSEED	1					10	9.91	6.97	2.94	0.59	0.74	
POLYSEED	2					15	9.87	4.06	5.81	0.77		
POLYSEED	3					20	9.84	1.16	8.68	0.87		
GGA	1					6	9.91	5.80	4.11	168.5	192.83	
GGA	2					6	9.90	5.70	4.2	173		
GGA	3					6	9.90	4.42	5.48	237		
Q1100-02	1	No	6.75	N/A	20.20	0.5	9.90	7.80	2.1	816	706.25	
Q1100-02	2					1	9.86	6.20	3.66	876		
Q1100-02	3					2	9.82	4.86	4.96	633		
Q1100-02	4					3	9.74	4.00	5.74	500		
Q1100-02DUP	1	No	6.75	N/A	20.20	0.5	9.90	7.82	2.08	804	700.13	
Q1100-02DUP	2					1	9.84	6.21	3.63	867		
Q1100-02DUP	3					2	9.81	4.88	4.93	628.5		
Q1100-02DUP	4					3	9.74	3.99	5.75	501		
Q1101-01	1	No	7.77	7.09	20.90	0.5	9.89	1.01	8.88	4884	4884	pH Adjusted
Q1101-01	2					1	9.84	0.10	-	0		
Q1101-01	3					2	9.80	0.08	-	0		
Q1101-01	4					5	9.64	0.06	-	0		
Q1101-01	5					10	9.34	0.02	-	0		
Q1101-05	1	No	5.20	6.97	20.60	0.01	9.72	7.83	-	0	9096	pH Adjusted
Q1101-05	2					0.05	9.70	6.79	2.91	13020		
Q1101-05	3					0.1	9.67	5.73	3.94	9600		
Q1101-05	4					0.5	9.64	1.12	8.52	4668		
Q1101-05	5					1	9.53	0.08	-	0		
Q1111-01	1	No	6.32	6.56	20.00	0.05	9.75	8.57	-	0	5186	pH Adjusted
Q1111-01	2					0.1	9.65	6.87	2.78	6120		
Q1111-01	3					0.2	9.62	5.14	4.48	5610		
Q1111-01	4					0.5	9.44	2.32	7.12	3828		
Q1111-01	5					1	9.31	0.06	-	0		
Q1113-01	1	No	7.07	N/A	20.00	5	9.73	8.37	-	0	17.81	
Q1113-01	2					20	9.71	7.18	2.53	26.85		
Q1113-01	3					50	9.70	6.60	3.1	14.16		
Q1113-01	4					150	9.68	2.73	6.95	12.42		
Q1113-03	1	No	6.99	N/A	20.00	5	9.86	8.11	-	0	48.31	
Q1113-03	2					20	9.80	5.31	4.49	56.25		
Q1113-03	3					50	9.78	2.31	7.47	40.38		
Q1113-03	4					150	9.76	0.93	-	0		
Q1113-05	1	No	6.87	N/A	20.00	5	9.69	8.75	-	0	9.02	
Q1113-05	2					20	9.62	7.90	-	0		
Q1113-05	3					50	9.59	6.99	2.6	11.16		

Q1113-05	4					150	9.43	5.25	4.18	6.88	
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Reviewed By:Iwona
On:1/21/2025 4:07:50
PM
Inst Id :DO METER
LB :LB134301

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)

WorkList Name : BOD5-1-15

WorkList ID : 186921

Department : Wet-Chemistry

Date : 01-15-2025 16:55:03

66134301

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1100-02	COMP	Water	BOD5	Cool 4 deg C	ARAM01	M11	01/15/2025	SM5210 B
Q1101-01	EFFLUENT	Water	BOD5	Cool 4 deg C	HOLL01	M11	01/15/2025	SM5210 B
Q1101-05	INFLUENT	Water	BOD5	Cool 4 deg C	HOLL01	M11	01/15/2025	SM5210 B
Q1111-01	DRAIN WATER TANK-1	Water	BOD5	Cool 4 deg C	MAJO01	M11	01/16/2025	SM5210 B

Date/Time 01/16/2025 13:50
 Raw Sample Received by: RM (unc)
 Raw Sample Relinquished by: RM (unc)

Date/Time 01/16/2025 17:00
 Raw Sample Received by: RM (unc)
 Raw Sample Relinquished by: RM (unc)

WORKLIST(Hardcopy Internal Chain)

6134301

WorkList Name : bod5-1-16

WorkList ID : 186960

Department : Wet-Chemistry

Date : 01-16-2025 15:04:12

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1113-01	DSN002	Water	BOD5	Cool 4 deg C	PSEG04	M11	01/16/2025	SM5210 B
Q1113-03	DSN001	Water	BOD5	Cool 4 deg C	PSEG04	M11	01/16/2025	SM5210 B
Q1113-05	DSN003	Water	BOD5	Cool 4 deg C	PSEG04	M11	01/16/2025	SM5210 B

Date/Time 01/16/2025 16:00
 Raw Sample Received by: RIM CWL
 Raw Sample Relinquished by: JH WEL

Date/Time 01/16/2025 16:00
 Raw Sample Received by: JH WEL
 Raw Sample Relinquished by: RIM CWL

TOTAL SUSPENDED SOLIDS - SM2540D

SUPERVISOR: Iwona

ANALYST: Niha

Date: 01/15/2025

Run Number: LB134304

BalanceID: WC SC-6

OvenID: WC OVEN-1

FilterID: 17416528

ThermometerID: WET OVEN#1

TEMP1 IN: 103 °C 01/15/2025 11:00 TEMP1 OUT: 104 °C 01/15/2025 12:00
 TEMP2 IN: 103 °C 01/15/2025 12:30 TEMP2 OUT: 104 °C 01/15/2025 13:30
 TEMP3 IN: 103 °C 01/16/2025 09:30 TEMP3 OUT: 104 °C 01/16/2025 11:00
 TEMP4 IN: 103 °C 01/16/2025 11:30 TEMP4 OUT: 104 °C 01/16/2025 13:00

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	LB134304BL	LB134304BL	1.4210	1.4210	100	1.4210	1.4210	1.4210	0.0000	0
2	LB134304BS	LB134304BS	1.4452	1.4452	100	1.4962	1.4962	1.4962	0.0510	510
3	Q1083-01	001-WILLETTS-PT-BLVD (DEC)	1.4777	1.4777	400	1.4912	1.4912	1.4912	0.0135	33.8
4	Q1083-01DUP	001-WILLETTS-PT-BLVD (DEC) DUP	1.4774	1.4774	400	1.4910	1.4910	1.4910	0.0136	34
5	Q1083-02	002-35TH-AVE (DEC)	1.4932	1.4932	250	1.5041	1.5041	1.5041	0.0109	43.6
6	Q1100-02	COMP	1.4744	1.4744	100	1.4968	1.4968	1.4968	0.0224	224
7	Q1101-01	EFFLUENT	1.4959	1.4959	50	1.5337	1.5337	1.5337	0.0378	756
8	Q1101-04	AERATION TK 1	1.4828	1.4828	20	1.5229	1.5229	1.5229	0.0401	2005

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

Weight (g) = C - B

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

WORKLIST(Hardcopy Internal Chain)

LB134304

WorkList Name : TSS-01152025 WorkList ID : 186923 Department : Wet-Chemistry Date : 01-15-2025 17:06:59

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1083-01	001-WILLETS-PT-BLVD(DEC)	Water	TSS	Cool 4 deg C	TULL01	N41	01/14/2025	SM2540 D
Q1083-02	002-35TH-AVE(DEC)	Water	TSS	Cool 4 deg C	TULL01	N41	01/14/2025	SM2540 D
Q1100-02	COMP	Water	TSS	Cool 4 deg C	ARAM01	M11	01/15/2025	SM2540 D
Q1101-01	EFFLUENT	Water	TSS	Cool 4 deg C	HOLL01	M11	01/15/2025	SM2540 D
Q1101-04	AERATION TK 1	Water	TSS	Cool 4 deg C	HOLL01	M11	01/15/2025	SM2540 D

Date/Time 01.16.2024, 08:40
Raw Sample Received by: NF(wc)
Raw Sample Relinquished by: JF cool CI

Date/Time 01.16.2024 10:00
Raw Sample Received by: M cccc
Raw Sample Relinquished by: NF(wc)

161343

Test results Aquakem 7.2AQ1 Page: 1

CHEMTECH CONSULTING GROUP INC
284 Sheffield Street, Mountainside, NJ 07092

1/16/2025 11:38

Reviewed by : RM

Instrument ID : Konelab

Test: Ammonia-N

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	1.011	0.0	0.148	
ICB1	0.003	0.0	0.019	
CCV1	1.020	0.0	0.150	
CCB1	0.001	0.0	0.018	
RL CHECK	0.090	0.0	0.030	
PB166064BL	-0.006	0.0	0.017	90% (50-150)
PB166064BS	1.014	0.0	0.149	01/16/2025
Q1070-01	0.548	0.0	0.089	RM
Q1070-01DUP	0.544	0.0	0.088	
Q1070-01MS	1.534	0.0	0.216	
Q1070-01MSD	1.484	0.0	0.209	
Q1101-01	9.433	0.0	1.233	Test limit high
Q1101-05	3.030	0.0	0.408	Test limit high
CCV2	1.001	0.0	0.147	
CCB2	-0.004	0.0	0.018	
Q1101-01DLX10	0.958	0.0	0.141	
Q1101-05DLX2	1.548	0.0	0.217	
CCV3	1.008	0.0	0.148	
CCB3	-0.005	0.0	0.017	

N 19
Mean 1.274
SD 2.1198
CV% 166.36

Aquakem v. 7.2AQ1

Results from time period:

Thu Jan 16 09:28:49 2025

Thu Jan 16 11:37:24 2025

Sample Id	Sam/Ctr/c	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPM	A	Ammonia-† P		-0.0074	mg/l	1/16/2025 9:28:49	
0.1PPM	A	Ammonia-† P		0.1016	mg/l	1/16/2025 9:28:50	
0.2PPM	A	Ammonia-† P		0.2032	mg/l	1/16/2025 9:28:51	
0.4PPM	A	Ammonia-† P		0.4118	mg/l	1/16/2025 9:28:52	
1.0PPM	A	Ammonia-† P		0.9979	mg/l	1/16/2025 9:28:53	
1.3PPM	A	Ammonia-† P		1.317	mg/l	1/16/2025 9:28:54	
2.0PPM	A	Ammonia-† P		2.0092	mg/l	1/16/2025 9:28:55	
ICV1	S	Ammonia-† P		1.0112	mg/l	1/16/2025 10:59:24	
ICB1	S	Ammonia-† P		0.0028	mg/l	1/16/2025 10:59:27	
CCV1	S	Ammonia-† P		1.0201	mg/l	1/16/2025 10:59:29	
CCB1	S	Ammonia-† P		0.001	mg/l	1/16/2025 10:59:31	
RL CHECK	S	Ammonia-† P		0.0896	mg/l	1/16/2025 10:59:33	
PB166064BL	S	Ammonia-† P		-0.0055	mg/l	1/16/2025 10:59:34	
PB166064BS	S	Ammonia-† P		1.0137	mg/l	1/16/2025 11:10:05	
Q1070-01	S	Ammonia-† P		0.5477	mg/l	1/16/2025 11:10:07	
Q1070-01DUP	S	Ammonia-† P		0.5443	mg/l	1/16/2025 11:10:10	
Q1070-01MS	S	Ammonia-† P		1.5337	mg/l	1/16/2025 11:10:11	
Q1070-01MSD	S	Ammonia-† P		1.4838	mg/l	1/16/2025 11:10:12	
Q1101-01	S	Ammonia-† P		9.4326	mg/l	1/16/2025 11:10:13	
Q1101-05	S	Ammonia-† P		3.0299	mg/l	1/16/2025 11:10:14	
CCV2	S	Ammonia-† P		1.0007	mg/l	1/16/2025 11:10:15	
CCB2	S	Ammonia-† P		-0.0036	mg/l	1/16/2025 11:15:01	
Q1101-01DLX10	S	Ammonia-† P		0.9576	mg/l	1/16/2025 11:37:17	
Q1101-05DLX2	S	Ammonia-† P		1.548	mg/l	1/16/2025 11:37:20	
CCV3	S	Ammonia-† P		1.0083	mg/l	1/16/2025 11:37:22	
CCB3	S	Ammonia-† P		-0.0054	mg/l	1/16/2025 11:37:23	

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Calibration results Aquakem 7.2AQ1 Page: 1

CHEMTECH CONSULTING GROUP INC
284 Sheffield Street, Mountainside, NJ 07092

1/16/2025 9:30 Reviewed by : RM Instrument ID : Konelab

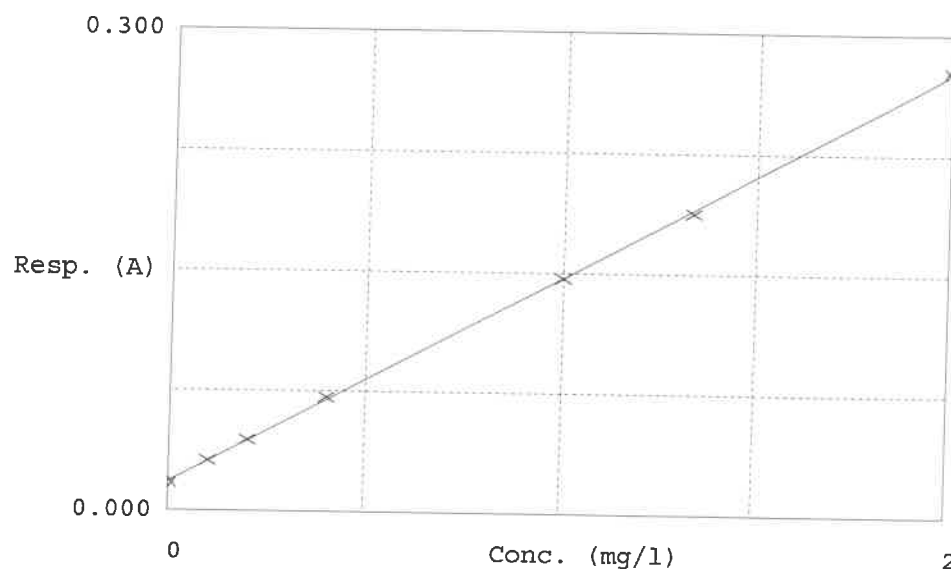
Test Ammonia-N

Accepted 1/16/2025 9:30

Factor 7.767
Bias 0.018

Coeff. of det. 0.999833

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	0.00PPM	0.017	-0.0074	0.0000	-
2	NH3-2PPM	0.031	0.1016	0.1000	1.6
3	NH3-2PPM	0.044	0.2032	0.2000	1.6
4	NH3-2PPM	0.071	0.4118	0.4000	2.9
5	NH3-2PPM	0.147	0.9979	1.0000	-0.2
6	NH3-2PPM	0.188	1.3170	1.3333	1.3
7	NH3-2PPM	0.277	2.0092	2.0000	0.5

01/16/2025
RM

Analytical Summary Report

Analysis Method: 365.3
Parameter: Phosphorus-Total
Run Number: LB134307

ANALYST: Niha
SUPERVISOR REVIEW BY: Iwona

Reagent/Standard	Lot/Log #
calibration std. phosphate 1 ppm	WP111410
calibration std. phosphate 0.5 ppm	WP111408
calibration std. phosphate 0.3 ppm	WP111407
calibration std. phosphate 0.1 ppm	WP111406
calibration std. phosphate 0.05 ppm	WP111405
calibration std. 0 ppm	WP111404
phosphate CCV std.	WP111411
Combined reagent	WP111429
Phenolphthalein indicator	WP111415
Sodium hydroxide, 1N	WP111323
Phosphate ICV-LCS Std	WP111412

Intercept: -0.0066 Slope: 0.689 Regression: 0.999529

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	0.01		01/16/2025	12:00
2	CAL2	0.05	1	50	50	0.032	0.056	12	01/16/2025	12:00
3	CAL3	0.10	1	50	50	0.064	0.102	2	01/16/2025	12:01
4	CAL4	0.30	1	50	50	0.190	0.285	-5	01/16/2025	12:01
5	CAL5	0.50	1	50	50	0.328	0.486	-2.8	01/16/2025	12:02
6	CAL6	1.00	1	50	50	0.690	1.011	1.1	01/16/2025	12:02

Analysis Method: 365.3

ANALYST: Niha

Parameter: Phosphorus-Total

SUPERVISOR REVIEW BY: Iwona

Run Number: LB134307

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	0.326	0.483	01/16/2025	12:03
2	ICB		1	50	50	0.000	0.010	01/16/2025	12:03
3	CCV1	0.50	1	50	50	0.330	0.489	01/16/2025	12:04
4	CCB1		1	50	50	0.000	0.010	01/16/2025	12:04
5	RL Check	0.01	1	50	50	0.033	0.057	01/16/2025	12:05
6	PB166065BL		1	50	50	0.000	0.010	01/16/2025	12:05
7	PB166065BS	0.50	1	50	50	0.326	0.483	01/16/2025	12:06
8	Q1101-01		1	50	50	0.046	0.076	01/16/2025	12:06
9	Q1101-01DUP		1	50	50	0.048	0.079	01/16/2025	12:07
10	Q1101-01MS	0.50	1	50	50	0.330	0.489	01/16/2025	12:07
11	Q1101-01MSD	0.50	1	50	50	0.332	0.491	01/16/2025	12:08
12	CCV2	0.50	1	50	50	0.324	0.480	01/16/2025	12:08
13	CCB2		1	50	50	0.000	0.010	01/16/2025	12:09

SOP ID : MSM4500-NH3 B,G-Ammonia-17

SDG No : N/A

Start Digest Date: 01/16/2025 Time : 08:45 Temp : 150 °C

Matrix : WATER

End Digest Date: 01/16/2025 Time : 09:45 Temp : 158 °C

Pipette ID : WC

Balance ID : N/A

Hood ID : HOOD#2

Digestion tube ID : M5595

Block Thermometer ID : WC CYANIDE

Block ID : WC-DIST-BLOCK-1

Filter paper ID : N/A

Prep Technician Signature: RM

Weigh By : N/A

pH Meter ID : N/A

Supervisor Signature: 12

Standardized Name	MLS USED	STD REF. # FROM LOG
LCSW	1.0ML	WP111420
MS/MSD SPIKE SOL.	1.0ML	WP111419
PBW	50.0ML	W3112
RL CHECK	0.1ML	WP111419
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
BORATE BUFFER	2.5ML	WP111325
NAOH 6N	0.5-2.0ML	WP111318
H2SO4 0.04N	5.0ML	WP110335
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

WP108814, Due to bad matrix and client history 1ML was taken as an initial volume for Q1070-01, Q1101-01 AND Q1101-05 RM

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
01-16-2025 10:00	RM CWL	RM CWL
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB166064BL	PBW064	50	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
PB166064BS	LCS064	50	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
Q1070-01DUP	1 EFFLUENT COMPOSITEDUP	1	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
Q1070-01MS	1 EFFLUENT COMPOSITE MS	1	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
Q1070-01MSD	1 EFFLUENT COMPOSITE MSD	1	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
Q1070-01	1 EFFLUENT COMPOSITE	1	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
Q1101-01	EFFLUENT	1	50	<2	N/A	Negative	N/A	AFTER ADDING 6N NAOH PH IS 9.5	N/A
Q1101-05	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-01-15

WorkList ID : 186917

Department : Distillation

Date : 01-15-2025 15:24:48

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1070-01	1 EFFLUENT COMPOSITE	Water	Ammonia	Conc H2SO4 to pH < 2	M&MM01	M11	01/10/2025	SM4500-NH3
Q1101-01	EFFLUENT	Water	Ammonia	Conc H2SO4 to pH < 2	HOLL01	M11	01/15/2025	SM4500-NH3
Q1101-05	INFLUENT	Water	Ammonia	Conc H2SO4 to pH < 2	HOLL01	M11	01/15/2025	SM4500-NH3

Date/Time 01/16/2025 08:05
 Raw Sample Received by: RM CWG
 Raw Sample Relinquished by: J. (DC)

Date/Time 01/16/2025 09:00
 Raw Sample Received by: J. (DC)
 Raw Sample Relinquished by: RM CWG

SOP ID : M365.3 & SM4500-P E-18

SDG No : N/A

Matrix : WATER

Pippete ID : WC

Balance ID : N/A

Hood ID : HOOD#3

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

Weigh By : N/A

Start Digest Date: 01/16/2025 Time : 09:00 Temp : 95 °C

End Digest Date: 01/16/2025 Time : 10:00 Temp : 96 °C

Digestion tube ID : M5595

Filter paper ID : 400213

pH Meter ID : N/A

Block Thermometer ID : WC-BLOCK#1

 Prep Technician Signature: *NF*

 Supervisor Signature: *12*

Standard Name	MLS USED	STD REF. # FROM LOG
LCSW	0.5ML	WP110401
MS/MSD SPIKE SOL.	0.5ML	WP110400
PBW	50ML	W3112
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
11N H2SO4	1ML	WP109922
AMMONIUM PERSULFATE	0.4g	W3035
pH Paper 0-14	N/A	W3140
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
CAL1	CAL1	50.0ML	WP111404
CAL2	CAL2	50.0ML	WP111405
CAL3	CAL3	50.0ML	WP111406
CAL4	CAL4	50.0ML	WP111407
CAL5	CAL5	50.0ML	WP111408
CAL6	CAL6	50.0ML	WP111410
ICV	ICV	50.0ML	WP111412
ICB	ICB	50.0ML	W3112
CCV	CCV	50.0ML	WP111411
CCB	CCB	50.0ML	W3112

Extraction Conformance/Non-Conformance Comments:

N/A

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

NF
 01/16/2025

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB166065BL	PBW065	50	50	<2	N/A	N/A	N/A	N/A	N/A
PB166065BS	LCS065	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1101-01	EFFLUENT	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1101-01DUP	EFFLUENTDUP	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1101-01MS	EFFLUENTMS	50	50	<2	N/A	N/A	N/A	N/A	N/A
Q1101-01MSD	EFFLUENTMSD	50	50	<2	N/A	N/A	N/A	N/A	N/A

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB134295

Review By	Niha	Review On	1/16/2025 1:52:44 PM
Supervise By	Iwona	Supervise On	1/17/2025 11:56:51 AM
SubDirectory	LB134295	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	WP111410,WP111408,WP111407,WP111406,WP111405,WP111404,WP111411,WP110380,WP111414,WP111415,WI		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	01/15/25 16:30		Niha	OK
2	CAL2	CAL2	CAL	01/15/25 16:30		Niha	OK
3	CAL3	CAL3	CAL	01/15/25 16:31		Niha	OK
4	CAL4	CAL4	CAL	01/15/25 16:31		Niha	OK
5	CAL5	CAL5	CAL	01/15/25 16:32		Niha	OK
6	CAL6	CAL6	CAL	01/15/25 16:32		Niha	OK
7	ICV	ICV	ICV	01/15/25 16:33		Niha	OK
8	ICB	ICB	ICB	01/15/25 16:33		Niha	OK
9	CCV1	CCV1	CCV	01/15/25 16:34		Niha	OK
10	CCB1	CCB1	CCB	01/15/25 16:34		Niha	OK
11	RL Check	RL Check	SAM	01/15/25 16:35		Niha	OK
12	LB134295BL	LB134295BL	MB	01/15/25 16:35		Niha	OK
13	LB134295BS	LB134295BS	LCS	01/15/25 16:36		Niha	OK
14	Q1101-01	EFFLUENT	SAM	01/15/25 16:36		Niha	OK
15	Q1101-01DUP	EFFLUENTDUP	DUP	01/15/25 16:37		Niha	OK
16	Q1101-01MS	EFFLUENTMS	MS	01/15/25 16:37		Niha	OK
17	Q1101-01MSD	EFFLUENTMSD	MSD	01/15/25 16:38		Niha	OK
18	CCV2	CCV2	CCV	01/15/25 16:38		Niha	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB134295

Review By	Niha	Review On	1/16/2025 1:52:44 PM
Supervise By	Iwona	Supervise On	1/17/2025 11:56:51 AM
SubDirectory	LB134295	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	WP111410,WP111408,WP111407,WP111406,WP111405,WP111404,WP111411,WP110380,WP111414,WP111415,WI		

19	CCB2	CCB2	CCB	01/15/25 16:39		Niha	OK
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Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QC Batch ID # LB134299

Review By	jignesh	Review On	1/16/2025 8:46:28 AM
Supervise By	Iwona	Supervise On	1/16/2025 9:50:47 AM
SubDirectory	LB134299	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	W3110,M6069,EP2577,WP110826,NA,NA,WP100827,NA,WP100828		

Sr#	SampleID	ClientID	QcType	Date	Comment	Operator	Status
1	LB134299BL	LB134299BL	MB	01/16/25 09:00		jignesh	OK
2	LB134299BS	LB134299BS	LCS	01/16/25 09:00		jignesh	OK
3	Q1070-02	2 EFFLUENT GRAB	SAM	01/16/25 09:00		jignesh	OK
4	Q1070-03	Q1070-02MS	MS	01/16/25 09:00		jignesh	OK
5	Q1070-04	Q1070-02MSD	MSD	01/16/25 09:00		jignesh	OK
6	Q1101-01	EFFLUENT	SAM	01/16/25 09:00		jignesh	OK
7	Q1101-02	Q1101-01MS	MS	01/16/25 09:00		jignesh	OK
8	Q1101-03	Q1101-01MSD	MSD	01/16/25 09:00		jignesh	OK

Instrument ID: DO METER

Daily Analysis Runlog For Sequence/QC Batch ID # LB134301

Review By	Niha	Review On	1/21/2025 2:48:37 PM
Supervise By	Iwona	Supervise On	1/21/2025 4:07:50 PM
SubDirectory	LB134301	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	WP111426,W3149,WP110386,W3103,W3109,W3105,WP111428,WP111427,WP111323		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB134301BL	LB134301BL	MB	01/16/25 16:50		rubina	OK
2	LB134301BS	LB134301BS	LCS	01/16/25 16:50		rubina	OK
3	Q1100-02	COMP	SAM	01/16/25 16:50		rubina	OK
4	Q1100-02DUP	COMPDUP	DUP	01/16/25 16:50		rubina	OK
5	Q1101-01	EFFLUENT	SAM	01/16/25 16:50		rubina	OK
6	Q1101-05	INFLUENT	SAM	01/16/25 16:50		rubina	OK
7	Q1111-01	DRAIN WATER TANK	SAM	01/16/25 16:50		rubina	OK
8	Q1113-01	DSN002	SAM	01/16/25 16:50		rubina	OK
9	Q1113-03	DSN001	SAM	01/16/25 16:50		rubina	OK
10	Q1113-05	DSN003	SAM	01/16/25 16:50		rubina	OK

Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QC Batch ID # LB134304

Review By	Niha	Review On	1/16/2025 1:18:35 PM
Supervise By	Iwona	Supervise On	1/16/2025 1:31:52 PM
SubDirectory	LB134304	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	LB134304BL	LB134304BL	MB	01/16/25 09:30		Niha	OK
2	LB134304BS	LB134304BS	LCS	01/16/25 09:30		Niha	OK
3	Q1083-01	001-WILLETS-PT-BL	SAM	01/16/25 09:30		Niha	OK
4	Q1083-01DUP	001-WILLETS-PT-BL	DUP	01/16/25 09:30		Niha	OK
5	Q1083-02	002-35TH-AVE(DEC)	SAM	01/16/25 09:30		Niha	OK
6	Q1100-02	COMP	SAM	01/16/25 09:30		Niha	OK
7	Q1101-01	EFFLUENT	SAM	01/16/25 09:30		Niha	OK
8	Q1101-04	AERATION 1	SAM	01/16/25 09:30		Niha	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB134305

Review By	rubina	Review On	1/17/2025 8:50:05 AM
Supervise By	Iwona	Supervise On	1/17/2025 9:33:26 AM
SubDirectory	LB134305	Test	Ammonia
STD. NAME	STD REF.#		
ICAL Standard	WP111423		
ICV Standard	WP111425		
CCV Standard	WP111424		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111420		
Chk Standard	WP110416,WP110019,WP111385,WP108840		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPM	0.0PPM	CAL1	01/16/25 09:28		rubina	OK
2	0.1PPM	0.1PPM	CAL2	01/16/25 09:28		rubina	OK
3	0.2PPM	0.2PPM	CAL3	01/16/25 09:28		rubina	OK
4	0.4PPM	0.4PPM	CAL4	01/16/25 09:28		rubina	OK
5	1.0PPM	1.0PPM	CAL5	01/16/25 09:28		rubina	OK
6	1.3PPM	1.3PPM	CAL6	01/16/25 09:28		rubina	OK
7	2.0PPM	2.0PPM	CAL7	01/16/25 09:28		rubina	OK
8	ICV1	ICV1	ICV	01/16/25 10:59		rubina	OK
9	ICB1	ICB1	ICB	01/16/25 10:59		rubina	OK
10	CCV1	CCV1	CCV	01/16/25 10:59		rubina	OK
11	CCB1	CCB1	CCB	01/16/25 10:59		rubina	OK
12	RL	RL	SAM	01/16/25 10:59		rubina	OK
13	PB166064BL	PB166064BL	MB	01/16/25 10:59		rubina	OK
14	PB166064BS	PB166064BS	LCS	01/16/25 11:10		rubina	OK
15	Q1070-01	1 EFFLUENT COMPO	SAM	01/16/25 11:10		rubina	OK
16	Q1070-01DUP	1 EFFLUENT COMPO	DUP	01/16/25 11:10		rubina	OK
17	Q1070-01MS	1 EFFLUENT COMPO	MS	01/16/25 11:10		rubina	OK
18	Q1070-01MSD	1 EFFLUENT COMPO	MSD	01/16/25 11:10		rubina	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB134305

Review By	rubina	Review On	1/17/2025 8:50:05 AM
Supervise By	Iwona	Supervise On	1/17/2025 9:33:26 AM
SubDirectory	LB134305	Test	Ammonia
STD. NAME	STD REF.#		
ICAL Standard	WP111423		
ICV Standard	WP111425		
CCV Standard	WP111424		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP111420		
Chk Standard	WP110416,WP110019,WP111385,WP108840		

19	Q1101-01	EFFLUENT	SAM	01/16/25 11:10		rubina	OK
20	Q1101-05	INFLUENT	SAM	01/16/25 11:10		rubina	OK
21	CCV2	CCV2	CCV	01/16/25 11:10		rubina	OK
22	CCB2	CCB2	CCB	01/16/25 11:15		rubina	OK
23	Q1101-01DL	EFFLUENTDL	SAM	01/16/25 11:37		rubina	OK
24	Q1101-05DL	INFLUENTDL	SAM	01/16/25 11:37		rubina	OK
25	CCV3	CCV3	CCV	01/16/25 11:37		rubina	OK
26	CCB3	CCB3	CCB	01/16/25 11:37		rubina	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB134307

Review By	Niha	Review On	1/16/2025 1:53:08 PM
Supervise By	Iwona	Supervise On	1/17/2025 11:57:03 AM
SubDirectory	LB134307	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	WP111410,WP111408,WP111407,WP111406,WP111405,WP111404,WP111411,WP111429,WP111415,WP111323,WF		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	01/16/25 12:00		Niha	OK
2	CAL2	CAL2	CAL	01/16/25 12:00		Niha	OK
3	CAL3	CAL3	CAL	01/16/25 12:01		Niha	OK
4	CAL4	CAL4	CAL	01/16/25 12:01		Niha	OK
5	CAL5	CAL5	CAL	01/16/25 12:02		Niha	OK
6	CAL6	CAL6	CAL	01/16/25 12:02		Niha	OK
7	ICV	ICV	ICV	01/16/25 12:03		Niha	OK
8	ICB	ICB	ICB	01/16/25 12:03		Niha	OK
9	CCV1	CCV1	CCV	01/16/25 12:04		Niha	OK
10	CCB1	CCB1	CCB	01/16/25 12:04		Niha	OK
11	RL Check	RL Check	SAM	01/16/25 12:05		Niha	OK
12	PB166065BL	PB166065BL	MB	01/16/25 12:05		Niha	OK
13	PB166065BS	PB166065BS	LCS	01/16/25 12:06		Niha	OK
14	Q1101-01	EFFLUENT	SAM	01/16/25 12:06		Niha	OK
15	Q1101-01DUP	EFFLUENTDUP	DUP	01/16/25 12:07		Niha	OK
16	Q1101-01MS	EFFLUENTMS	MS	01/16/25 12:07		Niha	OK
17	Q1101-01MSD	EFFLUENTMSD	MSD	01/16/25 12:08		Niha	OK
18	CCV2	CCV2	CCV	01/16/25 12:08		Niha	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB134307

Review By	Niha	Review On	1/16/2025 1:53:08 PM
Supervise By	Iwona	Supervise On	1/17/2025 11:57:03 AM
SubDirectory	LB134307	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	WP111410,WP111408,WP111407,WP111406,WP111405,WP111404,WP111411,WP111429,WP111415,WP111323,WF		

19	CCB2	CCB2	CCB	01/16/25 12:09		Niha	OK
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Prep Standard - Chemical Standard Summary

Order ID : Q1101

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

Prepbatch ID : PB166064,PB166065,

Sequence ID/Qc Batch ID: LB134295,LB134299,LB134301,LB134304,LB134305,LB134307,

Standard ID :

EP2577,WP100827,WP100828,WP108840,WP109922,WP110019,WP110149,WP110150,WP110335,WP110380,WP110386,WP110400,WP110401,WP110416,WP110587,WP110588,WP110826,WP111317,WP111318,WP111323,WP111325,WP111385,WP111404,WP111405,WP111406,WP111407,WP111408,WP111410,WP111411,WP111412,WP111413,WP111414,WP111415,WP111419,WP111420,WP111423,WP111424,WP111425,WP111426,WP111427,WP111428,WP111429,WP99896,

Chemical ID :

E3551,M5673,M6069,M6121,W1992,W1993,W2306,W2606,W2650,W2653,W2654,W2664,W2666,W2699,W2700,W2708,W2783,W2788,W2845,W2858,W2898,W2979,W3035,W3059,W3074,W3103,W3105,W3109,W3110,W3112,W3113,W3132,W3133,W3140,W3143,W3144,W3149,W3155,



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3923	Baked Sodium Sulfate	EP2577	01/06/2025	07/01/2025	Rajesh Parikh	Extraction_SC ALE_2 (EX-SC-2)	None	RUPESHKUMAR SHAH 01/06/2025
<u>FROM</u> 4000.00000gram of E3551 = Final Quantity: 4000.000 gram								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
114	hexavalent chromium color reagent	WP100827	02/02/2023	02/09/2023	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 02/02/2023
<u>FROM</u> 0.25000gram of W2979 + 50.00000ml of W2783 = Final Quantity: 50.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3456	Cyanide Intermediate Working Std, 5PPM	WP100828	02/02/2023	02/03/2023	Iwona Zarych	None	WETCHEM_FIPETTE_3 (WC)	Sohil Jodhani 02/07/2023

FROM 0.25000ml of W2898 + 49.75000ml of WP99896 = Final Quantity: 50.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
635	EDTA BUFFER FOR AMMONIA	WP108840	07/26/2024	01/26/2025	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 07/26/2024

FROM 5.50000gram of W3113 + 50.00000gram of W3132 + 950.00000ml of W3112 = Final Quantity: 1000.000 ml

Wet Chemistry STANDARD PREPARATION LOG

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1211	11 N sulfuric acid	WP109922	09/26/2024	03/26/2025	Iwona Zarych	None	None	Jignesh Parikh
								10/07/2024

FROM 306.00000ml of M5673 + 694.00000ml of W3112 = Final Quantity: 1000.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
289	Sodium Hypochlorite for Ammonia	WP110019	10/02/2024	01/31/2025	Rubina Mughal	None	None	Iwona Zarych
								10/04/2024

FROM 50.00000ml of W3112 + 50.00000ml of W3143 = Final Quantity: 100.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
153	Ammonia Stock Std. (1000 ppm)	WP110149	10/11/2024	04/08/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 10/14/2024
<u>FROM</u>	3.81900gram of W1993 + 996.18100ml of W3112 = Final Quantity: 1000.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1895	Ammonia Stock Std, 1000PPM-SS	WP110150	10/11/2024	04/08/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 10/14/2024
<u>FROM</u>	3.81900gram of W1992 + 996.18100ml of W3112 = Final Quantity: 1000.000 ml							

Wet Chemistry STANDARD PREPARATION LOG

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1597	0.04 N H2SO4	WP110335	10/22/2024	04/22/2025	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 10/22/2024

FROM 1.00000ml of M5673 + 999.00000ml of W3112 = Final Quantity: 1000.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
126	5N sulfuric acid	WP110380	10/24/2024	04/24/2025	Rubina Mughal	None	None	Iwona Zarych 10/24/2024

FROM 140.00000ml of M5673 + 860.00000ml of W3112 = Final Quantity: 1.000 L



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1841	Sulfuric Acid, 1N	WP110386	10/24/2024	04/24/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 10/24/2024
<u>FROM</u> 2.80000ml of M5673 + 97.20000ml of W3112 = Final Quantity: 100.000 ml								

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115	Phosphate Stock Std. (50 ppm)	WP110400	10/24/2024	04/23/2025	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 10/25/2024
<u>FROM</u> 0.11000gram of W2699 + 500.00000ml of W3112 = Final Quantity: 500.000 ml								



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2790	Phosphate Stock std, 50PPM-SS	WP110401	10/24/2024	04/24/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCS-5)	None	Iwona Zarych 10/25/2024
<u>FROM</u> 0.11000gram of W2708 + 500.00000ml of W3112 = Final Quantity: 500.000 ml								

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740	sodium nitroferricyanide for ammonia	WP110416	10/25/2024	04/25/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCS-5)	None	Iwona Zarych 10/25/2024
FROM 0.05000gram of W2666 + 99.95000ml of W3112 = Final Quantity: 100.000 ml								



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648	Ammonium molybdate solution	WP110587	11/07/2024	05/07/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WC SC-5)	None	Jignesh Parikh 11/07/2024
<u>FROM</u>	20.00000gram of W2664 + 480.00000ml of W3112 = Final Quantity: 500.000 ml							

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588	Potassium Antimonyl Tartrate	WP110588	11/07/2024	05/07/2025	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	None	Jignesh Parikh 11/07/2024
<u>FROM</u>	1.37150gram of W2306 + 500.00000ml of W3112 = Final Quantity: 500.000 ml							

Wet Chemistry STANDARD PREPARATION LOG

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229	1:1 HCL	WP110826	11/22/2024	05/13/2025	Jignesh Parikh	None	None	Iwona Zarych
								11/22/2024

FROM 500.00000ml of M6121 + 500.00000ml of W3112 = Final Quantity: 1.000 L

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1796	NaOH, 0.1N	WP111317	01/09/2025	07/09/2025	Rubina Mughal	WETCHEM_S CALE_7 (WC SC-6)	None	Iwona Zarych
								01/09/2025

FROM 4.00000gram of W3113 + 996.00000ml of W3112 = Final Quantity: 1000.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1471	NaOH Solution, 6N	WP111318	01/09/2025	07/09/2025	Rubina Mughal	WETCHEM_SCALE_7 (WC SC-6)	None	Iwona Zarych 01/09/2025
FROM 240.00000gram of W3113 + 760.00000ml of W3112 = Final Quantity: 1000.000 ml								

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1571	Sodium hydroxide, 1N	WP111323	01/09/2025	07/09/2025	Rubina Mughal	WETCHEM_S CALE_8 (WC SC-7)	None	Iwona Zarych 01/09/2025
<u>FROM</u> 4.00000gram of W3113 + 96.00000ml of W3112 = Final Quantity: 100.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

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1494	BORATE BUFFER	WP111325	01/09/2025	01/10/2025	Rubina Mughal	None	None	Iwona Zarych
								01/09/2025

FROM 100.00000L of W3112 + 9.50000gram of W2700 + 88.00000ml of WP111317 = Final Quantity: 100.000 L

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
290	Phenol reagent for Ammonia	WP111385	01/13/2025	07/13/2025	Rubina Mughal	WETCHEM_S CALE_8 (WC SC-7)	None	Iwona Zarych
								01/13/2025

FROM 3.20000gram of W3113 + 8.30000gram of W2858 + 88.80000ml of W3112 = Final Quantity: 100.000 ml

Wet Chemistry STANDARD PREPARATION LOG

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122	calibration std. 0 ppm	WP111404	01/15/2025	01/22/2025	Niha Farheen Shaik	None	None	Iwona Zarych
								01/16/2025

FROM 50.00000ml of W3112 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
121	calibration std. phosphate 0.05 ppm	WP111405	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3	Iwona Zarych
							(WC)	01/16/2025

FROM 99.90000ml of W3112 + 0.10000ml of WP110400 = Final Quantity: 100.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
120	calibration std. phosphate 0.1 ppm	WP111406	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3	Iwona Zarych
(WC)								
<u>FROM</u>	99.80000ml of W3112 + 0.20000ml of WP110400 = Final Quantity: 100.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
119	calibration std. phosphate 0.3 ppm	WP111407	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 01/16/2025
<u>FROM</u> 99.40000ml of W3112 + 0.60000ml of WP110400 = Final Quantity: 100.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

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118	calibration std. phosphate 0.5 ppm	WP111408	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/16/2025
FROM 99.00000ml of W3112 + 1.00000ml of WP110400 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
117	calibration std. phosphate 1 ppm	WP111410	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/16/2025
FROM 98.00000ml of W3112 + 2.00000ml of WP110400 = Final Quantity: 100.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

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124	phosphate CCV std.	WP111411	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 01/16/2025
FROM 99.00000ml of W3112 + 1.00000ml of WP110400 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3805	Phosphate ICV-LCS Std	WP111412	01/15/2025	01/22/2025	Niha Farheen Shaik	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 01/16/2025
FROM 99.00000ml of W3112 + 1.00000ml of WP110401 = Final Quantity: 100.000 ml								



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590	Ascorbic Acid	WP111413	01/15/2025	01/22/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCS-5)	None	Iwona Zarych 01/16/2025
<u>FROM</u>	0.52800gram of W3074 + 30.00000ml of W3112 = Final Quantity: 30.000 ml							

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658	Combined reagent	WP111414	01/15/2025	01/16/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/16/2025
<u>FROM</u>	15.00000ml of WP110587 + 30.00000ml of WP111413 + 5.00000ml of WP110588 + 50.00000ml of WP110380 = Final Quantity: 100.000 ml							



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1213	Phenolphthalein indicator	WP111415	01/15/2025	06/04/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCS)	None	Iwona Zarych 01/16/2025
<u>FROM</u>	0.10000gram of W2650 + 50.00000ml of W2788 + 50.00000ml of W3112 = Final Quantity: 100.000 ml							

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1322	Ammonia Intermediate Std, 50PPM	WP111419	01/16/2025	02/16/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 01/16/2025
<u>FROM</u> 95.00000ml of W3112 + 5.00000ml of WP110149 = Final Quantity: 100.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

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1639	Ammonia Intermediate Std-Second source, 50PPM	WP111420	01/16/2025	02/16/2025	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 01/16/2025
FROM 95.00000ml of W3112 + 5.00000ml of WP110150 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
275	Ammonia Calibration Std. (2 ppm)	WP111423	01/16/2025	01/17/2025	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 01/16/2025
FROM 48.00000ml of W3112 + 2.00000ml of WP111419 = Final Quantity: 50.000 ml								



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285	Ammonia CCV Std. (1 ppm)	WP111424	01/16/2025	01/17/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
(WC) FROM 49.00000ml of W3112 + 1.00000ml of WP111419 = Final Quantity: 50.000 ml								

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286	Ammonia ICV Std. (1 ppm)	WP111425	01/16/2025	01/17/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 01/16/2025
<u>FROM</u> 49.00000ml of W3112 + 1.00000ml of WP111420 = Final Quantity: 50.000 ml								

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127	BOD Dilution fluid	WP111426	01/16/2025	01/17/2025	Rubina Mughal	None	None	Iwona Zarych
								01/16/2025

FROM 18.00000L of W3112 + 3.00000PILLOW of W3144 = Final Quantity: 18.000 L

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
129	Glutamic acid-glucose mix for BOD	WP111427	01/16/2025	01/17/2025	Rubina Mughal	WETCHEM_SCALE_7 (WC SC-6)	None	Iwona Zarych
								01/16/2025

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

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
128	polyseed seed control	WP111428	01/16/2025	01/17/2025	Rubina Mughal	None	None	Iwona Zarych
								01/16/2025

FROM 1.00000PILLOW of W3059 + 300.00000ml of WP111426 = Final Quantity: 300.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
658	Combined reagent	WP111429	01/16/2025	01/17/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych
								01/16/2025

FROM 15.00000ml of WP110587 + 30.00000ml of WP111413 + 5.00000ml of WP110588 + 50.00000ml of WP110380 = Final Quantity: 100.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
11	Sodium hydroxide absorbing solution 0.25 N	WP99896	11/15/2022	05/15/2023	Jignesh Parikh	WETCHEM_SCALE_4 (WCS-4)	None	Iwona Zarych 11/15/2022
FROM 21.00000L of W2606 + 210.00000gram of W2845 = Final Quantity: 21.000 L								

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	313201	07/01/2025	01/03/2024 / Rajesh	07/20/2023 / Rajesh	E3551

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	09/21/2023 / mohan	09/05/2023 / mohan	M5673

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)	0000275677	05/13/2025	11/13/2024 / Eman	10/13/2024 / Eman	M6121

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	WL13B	04/08/2025	04/08/2015 / apatel	04/08/2015 / apatel	W1992

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	XE09B	04/08/2025	04/08/2015 / apatel	04/08/2015 / apatel	W1993

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606

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.	J07716-1 / Ammonium Molybdate 500G	0000234410	02/11/2026	02/10/2020 / AMANDEEP	01/31/2020 / apatel	W2664

CHEMICAL RECEIPT LOG BOOK

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

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, CRYST, ACS, 500G	04/2019-20	04/23/2025	04/23/2020 / apatel	03/11/2020 / apatel	W2699

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	2019111354	04/23/2025	04/23/2020 / apatel	03/11/2020 / apatel	W2700

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, CRYST, ACS, 500G	99/2019-20	05/05/2025	05/05/2020 / apatel	05/05/2020 / apatel	W2708

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)	0000263246	06/17/2023	12/23/2020 / ketankumar	12/23/2020 / ketankumar	W2783

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	06/23/2025	12/30/2020 / apatel	12/30/2020 / apatel	W2788

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19510-7 / Sodium Hydroxide Pellets 12 Kg	21C2456604	01/31/2024	03/30/2022 / JIGNESH	06/24/2021 / apatel	W2845

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	M13H048	01/07/2026	07/07/2021 / apatel	07/07/2021 / apatel	W2858

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Supelco	90157 / Cyanide Standard, 1000ppm from Supelco	HC03107133	06/30/2023	01/24/2022 / apatel	01/24/2022 / apatel	W2898

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	136742-80 / POLYSEED	152305	05/30/2025	02/15/2024 / Rubina	10/18/2023 / lwona	W3059

CHEMICAL RECEIPT LOG BOOK

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	MKCS4627	09/30/2025	01/16/2024 / lwona	01/16/2024 / lwona	W3074

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

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

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

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)	235898	02/28/2029	06/27/2024 / jignesh	06/26/2024 / jignesh	W3110

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

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC05050-1 / EDTA, disodium salt, dihydrate 1 lb	2ND0156	07/10/2026	07/26/2024 / lwona	07/26/2024 / lwona	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 / lwona	08/22/2024 / lwona	W3133

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	10D0142	09/17/2029	09/17/2024 / lwona	09/17/2024 / lwona	W3140

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	2407F34	01/31/2025	09/30/2024 / lwona	09/30/2024 / lwona	W3143

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	A4169	06/30/2029	11/20/2024 / rubina	10/01/2024 / lwona	W3144

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,P K100,CS12	14-860	12/02/2029	12/02/2024 / Iwona	12/02/2024 / Iwona	W3155



CERTIFICATE OF ANALYSIS

Printed: 12/8/2017

Page 1 of 1

Customer No : 30017
Order Number : 3008126
Catalog : A1561

Customer : PCI SCIENTIFIC
Delivery # : 58495347
Potassium Antimony Tartrate Trihydrate,
Reagent, ACS

Customer PO : 6035343

Lot : 2GH0057

Chemical Formula : $C_8H_4K_2O_{12}Sb_2 \cdot 3H_2O$
CAS# : 28300-74-5

Formula Weight : 667.87

W2306
received
12/11/17
AB

Test

Limit
Min. Max.

Results

ASSAY ($C_8H_4K_2O_{12}Sb_2 \cdot 3HO$)	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:

Certificate of Analysis



Date of Release: 12/18/2013

Product: Ammonium Chloride GR ACS

Catalog No.: AX1270 all
size codes

Grade: Meets ACS Specifications

CAS #: 12125-02-9

Country of Origin: India

FW: 53.49

Lot No.: WL13B



Characteristic	Requirement		Results	UOM
	Minimum	Maximum		
Assay (argentometric)	99.5		99.9	%
Calcium (Ca)		0.001	0.0001	%
Form	White crystals		White crystals	
Heavy metals (as Pb)		5	5	ppm
Identification	To pass test		Passes	
Insoluble matter		0.005	0.002	%
Iron (Fe)		2	2	ppm
Loss on drying (105 C)		0.5	0.21	%
Magnesium (Mg)		5	0.6	ppm
pH of a 5% solution at 25 C	4.5	5.5	4.76	
Phosphate (PO4)		2	2	ppm
Residue after ignition		0.01	0.002	%
Sulfate (SO4)		0.002	0.002	%

Joe Schoellkopf

Quality Control Manager

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Certificate of Analysis



Date of Release: 5/12/2014

Product: Ammonium Chloride GR ACS

Catalog No.: AX1270 all
size codes

Grade: Meets ACS Specifications

CAS #: 12125-02-9

Country of Origin: India

FW: 53.49

Lot No.: XE09B



Characteristic	Requirement		Results	UOM
	Minimum	Maximum		
Assay (argentometric)	99.5		99.8	%
Calcium (Ca)		0.001	0.0001	%
Form	White crystals		White crystals	
Heavy metals (as Pb)		5	5	ppm
Identification	To pass test		Passes	
Insoluble matter		0.005	0.002	%
Iron (Fe)		2	2	ppm
Loss on drying (105 C)		0.5	0.22	%
Magnesium (Mg)		5	0.7	ppm
pH of a 5% solution at 25 C	4.5	5.5	4.95	
Phosphate (PO4)		2	2	ppm
Residue after ignition		0.01	0.002	%
Sulfate (SO4)		0.002	0.002	%

Joe Schoellkopf

Quality Control Manager

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Subject to Vadodara Jurisdiction



CHAMPA PURIE-CHEM INDUSTRIES

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Web : www.cpcindia.com

CERTIFICATE OF ANALYSIS

PRODUCT : POTASSIUM PHOSPHATE MONOBASIC Anhy. - ACS		
CERTIFICATE NO	: 04/2019-20	DATE 13-05-2019
Date of receipt of sample	: 29.04.2019	Quantity : 1000 KGS.
Batch No. /Lot No.	: 04/2019-20	
Mfg. Date	: April-2019	
1. Characteristic : A White powder		
2. Identification : Positive		
	RESULT OBTAINED	LIMITS
3. Clarity and colour of solution : 10% solution is clear and colourless		
4. Assay (on dry basis)	99.35%	Min.99.00%
5. PH (5% solution)	4.28	4.1-4.5
6. Loss on Drying	0.06%	Max 0.2%
7. Heavy Metals	0.0004%	Max.0.001%
8. iron	0.001%	Max 0.002%
9. Sulphate	0.0015%	Max. 0.003%
10. Chloride	0.0005%	Max.0.001%
11. Insoluble Matter	0.002%	Max. 0.01%
12. Sodium	0.0038%	Max. 0.005%
The sample does comply with specification as per Above.		
Analysed by <u>J. A. PATHAK</u>		Quality Control Department



Certificate of Analysis

1.19533.0500 Cyanide standard solution traceable to SRM from NIST $K_2[Zn(CN)_4]$ in H_2O
1000 mg/l CN Certipur®
Batch HC03107133

Batch Values

Concentration	β (CN ⁻)	1002	mg/l
---------------	----------------------------	------	------

Determination method: Argentometric titration.

The content of this solution was determined with silver nitrate standard solution (article number 1.09081) standardized against volumetric standard sodium chloride (article number 1.02406). The expanded measurement uncertainty is $\pm 0.7\%$ ($k=2$ coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 999c (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard sodium chloride, measured in the accredited calibration laboratory of Merck KGaA, Darmstadt, Germany in accordance to DIN EN ISO/IEC 17025.

Date of release (DD.MM.YYYY) 02.07.2020

Minimum shelf life (DD.MM.YYYY) 30.06.2023

Ayfer Yildirim

Responsible laboratory manager quality control

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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

James Ethier
Jamie Ethier
Vice President Global Quality

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

Acetone
ULTRA RESI-ANALYZED
For Organic Residue Analysis



Material No.: 9254-03
Batch No.: 0000263246
Manufactured Date: 2020/06/17
Expiration Date: 2023/06/17
Revision No: 1

Certificate of Analysis

Test	Specification	Result
Assay ((CH ₃) ₂ CO) (by GC, corrected for water)	>= 99.4 %	99.7
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0000 ppm	0.1000
Substances Reducing Permanganate	Passes Test	PT
Titration Acid (μeq/g)	<= 0.3	0.1
Titration Base (μeq/g)	<= 0.6	< 0.1
Water (H ₂ O)	<= 0.5 %	0.3
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	<= 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	<= 10	5

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

Country of Origin: US
Packaging Site: Phillipsburg 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

W2858 Received by AP on 07/07/2021

Product No.: 33213
Product: Phenol, ACS, 99+%, stab.
Lot No.: M13H048

Test	Limits	Results
Assay	99.0 % min	99.8 %
Freezing point	40.5°C min	40.5 °C
Clarity of solution	To pass test	Passes
Residue after evaporation	0.05 % max	< 0.05 %
Water	0.5 % max	0.2 %

Retest date: January 7, 2026

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W2666 Recived on 02/10/2020 by AP

Product No.: 87683

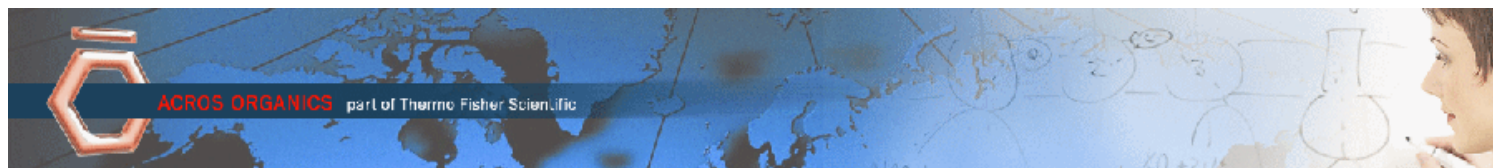
Product: Sodium pentacyanonitrosylferrate(III) dihydrate, ACS,
99.0-102.0%

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

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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

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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 (SO ₄)	=<300 ppm	=<200 ppm
Ammonium (NH ₄)	=<200 ppm	=<200 ppm
Arsenic oxide (As ₂ O ₃)	=<1 ppm	=<1 ppm



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

L. Van den Broek, QA Manager

Issued: 24 January 2020

Acros Organics

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

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

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



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 **W2788 Received on 12/30/2020 by AP**
Recommended Retest Date: Five Years from Date of Manufacture

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
Titration 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

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

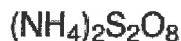


W 3035
rec. 6/6/23 12

Product Name:

Certificate of AnalysisAmmonium persulfate - ACS reagent, $\geq 98.0\%$

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



Test	Specification	Result
Appearance (Color)	White to Off White	White
Appearance (Form)	Powder or Crystals or Granules or Chunks	Crystals
ICP Major Analysis	Confirmed	Confirmed
Confirms Sulfur Component		
Titration by KMNO ₄	$\geq 98.0 \%$	100.0 %
Residue on ignition (Ash)	$\leq 0.05 \%$	$< 0.05 \%$
Insoluble Matter	$\leq 0.005 \%$	0.002 %
c = 10 %; In Water		
Chloride and Chlorate (as Cl)	$\leq 0.001 \%$	$< 0.001 \%$
Iron (Fe)	$\leq 0.001 \%$	$< 0.001 \%$
Heavy Metal	$\leq 0.005 \%$	$< 0.001 \%$
as Lead		
Manganese (Mn)	$\leq 0.5 \text{ ppm}$	$< 0.1 \text{ ppm}$
Titrateable Acid (meq/g)	≤ 0.04	< 0.04
Meets ACS Requirements	Current ACS Specification	Conforms


Larry Coers, Director
Quality Control
Milwaukee, WI US

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





CERTIFICATE OF ANALYSIS

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

W 3059
REC. 10/18/23 12

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

PolySeed® • Part No. P-110 • Lot 152305 • Mfg. Date: 05/2023 • Exp. Date: 05/2025

FORMULATION:

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

VIABLE COUNT, FINAL TEST RESULT:

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

GLUCOSE/GLUTAMIC-ACID RESULTS:

Tested results within acceptable range 198 ± 30.5 mg/L (167.5 - 228.5 mg/L). GGA Lot# L257-09 – Average Test Result: 203.4

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 assure that the Finished Product conforms to the above specification.

Signature: _____

Quality Control Department

Date: 05/15/2023

POLYSEED.Ref.1.19

Revised Jan 23

InterLab®
International Laboratory Supply



Certificate Of Analysis



Date of Release: 11/14/2019

W2700 Recived by AP on 3/11/2020

Name: **Sodium Borate, Decahydrate**

ACS

Item No: **SX0355 All Sizes**

Lot / Batch No: **2019111354**

Country of Origin: **India**

Item	Specifications	Analysis
Assay (Na ₂ B ₄ O ₇ • 10H ₂ O)	99.5 - 105.0%	101.7%
Calcium (Ca)	0.005% max.	0.003%
Chloride (Cl)	0.001% max.	<0.001%
Color	White	Passes Test
Form	Crystals	Passes Test
Heavy Metals (as Pb)	0.001% max.	<0.001%
Insoluble Matter	0.005% max.	0.002%
Iron (Fe)	5 ppm max.	<5 ppm
pH of a 0.01 M solution at 25C	9.15 - 9.20	9.17
Phosphate (PO ₄)	0.001% max.	<0.001%
Sulfate (SO ₄)	0.005% max.	<0.005%

Joe Schoellkopf

Quality Control Manager

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EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMD Millipore Corporation

400 Summit Drive
Burlington, MA 01803
U.S.A.

Form number: 00005624CA, Rev. 2.0



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

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Catalog Number	D16	Quality Test / Release Date	03/19/2019
Lot Number	186122A		
Description	DEXTROSE, ANHYDROUS, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Mar/2022
Chemical Origin	Organic - Plant		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		
Chemical Comment			

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	White, granular powder
TITRATABLE ACID	MEQ/G	<= 0.002	<0.002
STARCH		= PASS TEST	pass test
SPECIFIC ROTATION @ 25 C	DEGREES (+ OR -)	Inclusive Between +52.5 - +53.0	53.0
SULFATE & SULFITE	%	<= 0.005	<0.005
IRON (Fe)	ppm	<= 5	<5
CHLORIDE	%	<= 0.01	<0.01
IGNITION RESIDUE	%	<= 0.02	<0.02
IDENTIFICATION	PASS/FAIL	= PASS TEST	pass test
HEAVY METALS (as Pb)	ppm	<= 5	<5
LOSS ON DRYING @ 105 C	%	<= 0.2	<0.2
INSOLUBLE MATTER	%	<= 0.005	0.002

Jerisa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

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

*Based on suggested storage condition.



**PRODUCTOS
QUÍMICOS
MONTERREY, S.A. DE C.V.**

MIRADOR 201, COL. MIRADOR
MONTERREY, N.L. MEXICO
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 ₂ SO ₄
SPECIFICATION NUMBER :	6399	RELEASE DATE:	ABR/21/2023
LOT NUMBER :	313201		

TEST	SPECIFICATIONS	LOT VALUES
Assay (Na ₂ SO ₄)	Min. 99.0%	99.7 %
pH of a 5% solution at 25°C	5.2 - 9.2	6.1
Insoluble matter	Max. 0.01%	0.005 %
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%	0.002 %
Magnesium (Mg)	Max. 0.005%	0.001 %
Potassium (K)	Max. 0.008%	0.003 %
Extraction-concentration suitability	Passes test	Passes test
Appearance	Passes test	Passes test
Identification	Passes test	Passes test
Solubility and foreign matter	Passes test	Passes test
Retained on US Standard No. 10 sieve	Max. 1%	0.1 %
Retained on US Standard No. 60 sieve	Min. 94%	97.3 %
Through US Standard No. 60 sieve	Max. 5%	2.5 %
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.

Recd. by R3 on 7/24/23 E 3551

RC-02-01, Ed. 3

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

 **avantor**™



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

Certificate of Analysis

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

>>> Continued on page 2 >>>

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

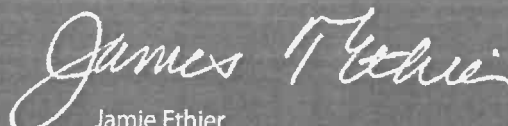


Material No.: 9673-33
Batch No.: 23D2462010

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

For Laboratory, Research, or Manufacturing Use

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


Jamie Ethier
Vice President Global Quality



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.



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

avantor™



R → 16/13/24
Met dig

M 6121

Material No.: 9530-33
Batch No.: 0000275677
Manufactured Date: 2020/12/16
Retest Date: 2025/12/15
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.6
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	1
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.190
ACS – Bromide (Br)	≤ 0.005 %	< 0.005
ACS – Extractable Organic Substances	≤ 5 ppm	1
ACS – Free Chlorine (as Cl ₂)	≤ 0.5 ppm	< 0.5
Phosphate (PO ₄)	≤ 0.05 ppm	< 0.03
Sulfate (SO ₄)	≤ 0.5 ppm	< 0.3
Sulfite (SO ₃)	≤ 0.8 ppm	0.3
Ammonium (NH ₄)	≤ 3 ppm	< 1
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	< 0.2
Arsenic and Antimony (as As)	≤ 5 ppb	< 3
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	< 0.2
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	29.7
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	< 0.4
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2

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

Avantor Performance Materials, LLC

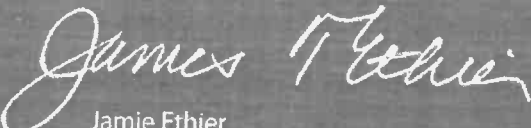
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 9530-33
Batch No.: 0000275677

Test	Specification	Result
Trace Impurities – Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities – Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities – Iron (Fe)	<= 15.0 ppb	< 1
Trace Impurities – Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities – Lithium (Li)	<= 1.0 ppb	0.2
Trace Impurities – Magnesium (Mg)	<= 10.0 ppb	0.4
Trace Impurities – Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities – Mercury (Hg)	<= 0.5 ppb	0.1
Trace Impurities – Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities – Nickel (Ni)	<= 4.0 ppb	< 0.3
Trace Impurities – Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities – Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities – Selenium (Se), For Information Only	ppb	1.0
Trace Impurities – Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities – Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities – Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities – Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities – Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities – Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities – Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities – Titanium (Ti)	<= 1.0 ppb	0.2
Trace Impurities – Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities – Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities – Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg 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



CHAMPA PURIE-CHEM INDUSTRIES

ISO 9001 : 2015 CERTIFIED COMPANY

Importers Exporters Manufacturers & Marketing of Fine Chemicals & Pharmaceuticals

262-263, G.I.D.C. Estate,
Makarpura,
Vadodara - 390 010.
Gujarat - INDIA.

Phone : (F) +91-265-2633314 / 2643723
Fax : (F) +91-265-2638036
E-mail : info@cpcindia.com
Web : www.cpcindia.com

W2708 Received on 05/05/20 by AP

CERTIFICATE OF ANALYSIS

PRODUCT	: POTASSIUM PHOSPHATE MONOBASIC Anhy. - ACS	
CERTIFICATE NO	: 99/2019- 20	DATE 26-08-2019
Date of receipt of sample	: 22.08.2019	Quantity : 1000 KGS
Batch No. /Lot No	: 99/2019- 20	
Mfg. Date	: Aug-2019	
1. Characteristic	: A White powder	
2. Identification	: Positive	
	RESULT OBTAINED	LIMITS
3. Clarity and colour of solution	: 10% solution is clear and colourless	
4. Assay (on dry basis)	: 99.27%	Min.99.00%
5. PH (5% solution)	: 4.4	4.1-4.5
6. Loss on Drying	: 0.1%	Max 0.2%
7. Heavy Metals	: 0.0003%	Max.0.001%
8. Iron	: 0.001%	Max 0.002%
9. Sulphate	: 0.001%	Max. 0.003%
10. Chloride	: 0.0005%	Max.0.001%
11. Insoluble Matter	: 0.003%	Max. 0.01%
12. Sodium	: 0.004%	Max. 0.005%
The sample does comply with specification as per Above.		
Analysed by	<u>J.A. PATHAK</u>	Quality Control Department

W 2979

Rec: 12/09/22

exp. 12/09/27

Product Name:

1,5-Diphenylcarbazide - ACS reagent

Product Number:

259225

Batch Number:

MKCR6636

Brand:

SIAL

CAS Number:

140-22-7

MDL Number:

MFCD00003013

Formula:

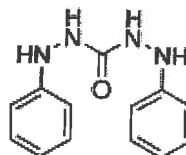
C₁₃H₁₄N₄O

Formula Weight:

242.28 g/mol

Quality Release Date:

02 JUN 2022



Certificate of Analysis

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



Larry Coers, Director
Quality Control
Milwaukee, WI US

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



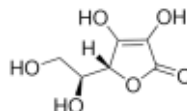
W3074 Rec. on 01/16/24 by IZ

Certificate of Analysis

Product Name:

L-Ascorbic acid - ACS reagent, ≥99%

Product Number: 255564
Batch Number: MKCS4627
Brand: SIAL
CAS Number: 50-81-7
MDL Number: MFCD00064328
Formula: C₆H₈O₆
Formula Weight: 176.12 g/mol
Quality Release Date: 21 NOV 2022
Recommended Retest Date: SEP 2025



Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Conforms to Requirements	Powder
Powder, Crystals, Crystalline Powder, Granules and/or Chunks		
Infrared Spectrum	Conforms to Structure	Conforms
Optical Rotation (+); c = 10%; Water	20.5 - 21.5 deg	20.7 deg
Titration by Iodine	≥ 99.0 %	99.4 %
Residue on Ignition	≤ 0.10 %	0.03 %
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

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





Certificate of Analysis

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

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

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

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

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

Part Number	Size / Package Type	Shelf Life (Unopened Container)
4620-32	1 L natural poly	24 months

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



Jose Pena (03/15/2024)

Operations Manager

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

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Certificate of Analysis

Sodium Thiosulfate, 0.0250 Normal (N/40)

Lot Number: 4403S13

Product Number: 7900

Manufacture Date: MAR 29, 2024

Expiration Date: SEP 2025

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

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

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

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

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

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

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



Paul Brandon (03/29/2024)

Production Manager

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

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Certificate of Analysis

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

Lot Number: 1405D67

Product Number: 535

Manufacture Date: APR 05, 2024

Expiration Date: APR 2026

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

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

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

Specification	Reference
Alkaline Iodide-Sodium Azide Solution II	ASTM (D 888 A)
Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.	

Part Number	Size / Package Type	Shelf Life (Unopened Container)
535-32	1 L natural poly	24 months

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



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

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W3110
58
operate!
06/27/2024

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 - 0120633

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	H303	Quality Test / Release Date	02/23/2024
Lot Number	235898		
Description	HEXANES - OPTIMA		
Country of Origin	United States	Suggested Retest Date	Feb/2029
Chemical Origin	Organic - non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear, colorless liquid
ASSAY (N-HEXANE)	%	>= 60	73
ASSAY (SUM C6 HYDROCARBONS)	%	>= 99.9	>99.9
COLOR	APHA	<= 5	<5
DENSITY AT 25 DEGREES C	GM/ML	Inclusive Between 0.653 - 0.673	0.670
EVAPORATION RESIDUE	ppm	<= 1	0.3
FLUORESCENCE BACKGROUND	ppb	<= 1	<1
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
OPTICAL ABS AT 195 NM	ABS. UNITS	<= 1	0.64
OPTICAL ABS AT 210 NM	ABS. UNITS	<= 0.25	0.16
OPTICAL ABS AT 220 NM	ABS. UNITS	<= 0.07	0.06
OPTICAL ABS AT 254 NM	ABS. UNITS	<= 0.005	0.002
PESTICIDE RESIDUE ANALYSIS	NG/L	<= 10	<10
REFRACTIVE INDEX @ 25 DEG C		Inclusive Between 1.375 - 1.385	1.380
SUITABILITY FOR GC/MS		= PASS TEST	PASS TEST
SULFUR COMPOUNDS	%	<= 0.005	<0.005
THIOPHENE	PASS/FAIL	= PASS TEST	PASS TEST
WATER (H2O)	%	<= 0.01	<0.01
WATER-SOLUBLE TITRABLE ACID	MEQ/G	<= 0.0003	0.0001

Harout Sahagian
Harout Sahagian - Quality Control Manager - 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.



Sodium Hydroxide (Pellets)

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

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

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

Storage: Room Temperature

Pellets

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

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

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

Additional Information

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

Product meets analytical specifications of the grades listed.



Sodium Hydroxide (Pellets)

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

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

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

Storage: Room Temperature

Pellets

Spec Set: 0583ACS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

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

Additional Information

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

Product meets analytical specifications of the grades listed.

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) ₃ N]		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.

Certificate of Analysis

Sodium Hypochlorite Solution, 5% available Chlorine

Lot Number: 2407F34**Product Number:** 7495.5**Manufacture Date:** JUL 12, 2024**Expiration Date:** JAN 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	5.05 % (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
7495.5-8	250 mL amber poly	6 months

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

Jose Pena (07/12/2024)
Operations Manager

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An ISO 9001 Certified Company

Loveland, CO 80539

(970) 669-3050

Certificate of Analysis

This is a Component of 1486266 / LOT A4169

PRODUCT: BOD Nutrient Buffer Pillows

PRODUCT NUMBER: 1486227

LOT NUMBER: A4169

MANUFACTURE DATE: 06/24/2024

DATE OF ANALYSIS: 07/03/2024

TEST	SPECIFICATIONS	RESULTS
Calcium Concentration of a diluted pillow	0.93 to 1.29 ppm	0.960 ppm
Magnesium Concentration of a diluted pillow	0.35 to 0.48 ppm	0.390 ppm
pH in a 6 L of DI water	7.1 to 7.6	7.37
Ammonia Concentration of a diluted pillow	0.57 to 0.79 ppm	0.593 ppm
Iron Concentration of a diluted pillow	0.27 to 0.36 ppm	0.311 ppm
Sterility	To Pass	Passed
Phosphorus Concentration of a diluted pillow	7.6 to 10.3 ppm	8.32 ppm
Five Day Change in Dissolved Oxygen Concentration	-0.2 to 0.2 ppm	0.03 ppm

The expiration date is Jun 2029

Certified by: *Scott Als*

Analytical Services Chemist



Certificate of Analysis

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

Lot Number: 4408P62

Product Number: 8000

Manufacture Date: AUG 28, 2024

Expiration Date: AUG 2026

This product is Mercury-free.

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

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

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

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

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

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

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

Paul Brandon (08/28/2024)
Production Manager

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SHIPPING DOCUMENTS

CHEMTECH

CHAIN OF CUSTODY RECORD

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

CHEMTECH PROJECT NO. **Q1101**
QUOTE NO.
COC Number **2042212**

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: **HOLLAND MFG CO**
ADDRESS: **15 MAIN ST**
CITY: **SUCCASUNNA** STATE: **NJ** ZIP: **07816**
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: **SAME** PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:
ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) **5** DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

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

BOD5
TSS
D+G
PO4
TOTAL P
NH4

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES									COMMENTS	
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9		
1.	EFFLUENT	W		✓	1/15	1300	6	✓	✓	✓	✓	✓	✓					
2.	AERATION #1	W		✓	1/15	1300	1		✓									
3.	INFLUENT	W		✓	1/15	1300	2	✓					✓					
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

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

RELINQUISHED BY SAMPLER: 1.	DATE/TIME: 1/15 1:40	RECEIVED BY: 1.	1510	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 1.7°C
RELINQUISHED BY SAMPLER: 2.	DATE/TIME:	RECEIVED BY: 2.		Comments: CAB TO FILTER
RELINQUISHED BY SAMPLER: 3.	DATE/TIME:	RECEIVED BY: 3.		Page ____ of ____

CLIENT: ☐ Hand Delivered ☐ Other
 CHEMTECH: ☐ Picked Up ☐ Field Sampling

Shipment Complete
☐ YES ☐ NO



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

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488