

## Cover Page

**Order ID :** Q2653

**Project ID :** Parsippany Wastewater Quarterly 2025

**Client :** METEM A GE POWER Business

**Lab Sample Number**

Q2653-01

**Client Sample Number**

WASTEWATER Q3

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

Signature : \_\_\_\_\_

Date: 7/25/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

## DATA REPORTING QUALIFIERS- INORGANIC

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

<b>J</b>	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).
<b>U</b>	Indicates the analyte was analyzed for, but not detected.
<b>ND</b>	Indicates the analyte was analyzed for, but not detected
<b>E</b>	Indicates the reported value is estimated because of the presence of interference
<b>M</b>	Indicates Duplicate injection precision not met.
<b>N</b>	Indicates the spiked sample recovery is not within control limits.
<b>S</b>	Indicates the reported value was determined by the Method of Standard Addition (MSA).
<b>*</b>	Indicates that the duplicate analysis is not within control limits.
<b>+</b>	Indicates the correlation coefficient for the MSA is less than 0.995.
<b>D</b>	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
<b>M</b>	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
<b>OR</b>	Indicates the analyte’s concentration exceeds the calibrated range of the instrument for that specific analysis.
<b>Q</b>	Indicates the LCS did not meet the control limits requirements
<b>H</b>	Sample Analysis Out Of Hold Time

## APPENDIX A

### QA REVIEW GENERAL DOCUMENTATION

Project #: Q2653

Completed

For thorough review, the report must have the following:

#### GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

#### COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

#### CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Custody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

#### ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: KETAN PATEL

Date: 07/25/2025

## LAB CHRONICLE

<b>OrderID:</b>	Q2653	<b>OrderDate:</b>	7/21/2025 11:56:00 AM
<b>Client:</b>	METEM A GE POWER Business	<b>Project:</b>	Parsippany Wastewater Quarterly 2025
<b>Contact:</b>	Sundas Pervez	<b>Location:</b>	O52

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2653-01	WASTEWATER Q3	WATER			07/21/25 11:00			07/21/25
			Cyanide	SM4500-CN C,E		07/23/25	07/23/25 10:23	
			Field pH	SM4500-H B			07/21/25 11:03	



# SAMPLE DATA

## Report of Analysis

Client:	METEM A GE POWER Business	Date Collected:	07/21/25 11:00
Project:	Parsippany Wastewater Quarterly 2025	Date Received:	07/21/25
Client Sample ID:	WASTEWATER Q3	SDG No.:	Q2653
Lab Sample ID:	Q2653-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Cyanide	0.0012	U	1	0.0012	0.0050	mg/L	07/23/25 08:00	07/23/25 10:23	SM 4500-CN C-21 plus E-21
Field pH	7.67		1	0	0	pH		07/21/25 11:03	SM4500-H B

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:** METEM A GE POWER Business

**SDG No.:** Q2653

**Project:** Parsippany Wastewater Quarterly 2025

**RunNo.:** LB136582

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: <b>ICV1</b> Cyanide	mg/L	0.093	0.099	94	85-115	07/23/2025
Sample ID: <b>CCV1</b> Cyanide	mg/L	0.25	0.25	100	90-110	07/23/2025
Sample ID: <b>CCV2</b> Cyanide	mg/L	0.26	0.25	104	90-110	07/23/2025



## Initial and Continuing Calibration Verification

**Client:** METEM A GE POWER Business

**SDG No.:** Q2653

**Project:** Parsippany Wastewater Quarterly 2025

**RunNo.:** LB136589

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	ICV						
Field pH		pH	7.03	7	100	90-110	07/21/2025
Sample ID:	CCV1						
Field pH		pH	7.01	7.0	100	90-110	07/21/2025
Sample ID:	CCV2						
Field pH		pH	7.01	7.0	100	90-110	07/21/2025

### Initial and Continuing Calibration Blank Summary

**Client:** METEM A GE POWER Business

**SDG No.:** Q2653

**Project:** Parsippany Wastewater Quarterly 2025

**RunNo.:** LB136582

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: <b>ICB1</b> <b>Cyanide</b>	mg/L	< 0.0025	0.0025	U	0.0012	0.005	07/23/2025
Sample ID: <b>CCB1</b> <b>Cyanide</b>	mg/L	< 0.0025	0.0025	U	0.0012	0.005	07/23/2025
Sample ID: <b>CCB2</b> <b>Cyanide</b>	mg/L	< 0.0025	0.0025	U	0.0012	0.005	07/23/2025

### Preparation Blank Summary

**Client:** METEM A GE POWER Business

**SDG No.:** Q2653

**Project:** Parsippany Wastewater Quarterly 2025

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: Cyanide	<b>PB168950BL</b> mg/L	< 0.0025	0.0025	U	0.0012	0.005	07/23/2025

## Matrix Spike Summary

<b>Client:</b>	METEM A GE POWER Business	<b>SDG No.:</b>	Q2653
<b>Project:</b>	Parsippany Wastewater Quarterly 2025	<b>Sample ID:</b>	Q2653-01
<b>Client ID:</b>	WASTEWATER Q3MS	<b>Percent Solids for Spike Sample:</b>	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/L	75-125	0.039		0.0012	U	0.04	1	98		07/23/2025

## Matrix Spike Summary

<b>Client:</b>	METEM A GE POWER Business	<b>SDG No.:</b>	Q2653
<b>Project:</b>	Parsippany Wastewater Quarterly 2025	<b>Sample ID:</b>	Q2653-01
<b>Client ID:</b>	WASTEWATER Q3MSD	<b>Percent Solids for Spike Sample:</b>	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/L	75-125	0.040		0.0012	U	0.04	1	100		07/23/2025

## Duplicate Sample Summary

<b>Client:</b> METEM A GE POWER Business	<b>SDG No.:</b> Q2653
<b>Project:</b> Parsippany Wastewater Quarterly 2025	<b>Sample ID:</b> Q2653-01
<b>Client ID:</b> WASTEWATER Q3DUP	<b>Percent Solids for Spike Sample:</b> 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Cyanide	mg/L	+/-20	0.0012	U	0.0012	U	1	0		07/23/2025
Field pH	pH	+/-20	7.67		7.68		1	0.13		07/21/2025

## Duplicate Sample Summary

<b>Client:</b> METEM A GE POWER Business <b>Project:</b> Parsippany Wastewater Quarterly 2025 <b>Client ID:</b> WASTEWATER Q3MSD	<b>SDG No.:</b> Q2653 <b>Sample ID:</b> Q2653-01 <b>Percent Solids for Spike Sample:</b> 0
--	--

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/L	+/-20	0.039		0.040		1	3		07/23/2025

### Laboratory Control Sample Summary

**Client:** METEM A GE POWER Business

**SDG No.:** Q2653

**Project:** Parsippany Wastewater Quarterly 2025

**Run No.:** LB136582

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB168950BS							
Cyanide	mg/L	0.1	0.094		94	1	85-115	07/23/2025





# RAW DATA

LB136

Test results

Aquakem 7.2AQ1

Page:

Alliance Technical Group

284 Sheffield Street, Mountainside, NJ 07092

7/23/2025 10:50

Reviewed by : RM

Instrument ID : Konelab

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	92.593	0.0	0.077	
ICB1	0.445	0.0	0.001	
CCV1	246.678	0.0	0.205	
CCB1	0.185	0.0	0.001	
RL CHECK	4.846	0.0	0.005	
PB168950BL	0.318	0.0	0.001	
PB168950BS	93.586	0.0	0.078	
MIDPB168950	245.344	0.0	0.204	
Q2653-01	0.143	0.0	0.001	
Q2653-01DUP	0.049	0.0	0.001	
Q2653-01MS	39.002	0.0	0.033	
Q2653-01MSD	39.567	0.0	0.033	
CCV2	255.975	0.0	0.213	
CCB2	0.735	0.0	0.001	

96% (50-150)  
07/23/2025  
98% (90-110) RM

N 14  
Mean 72.819  
SD 101.0609  
CV% 138.78

Aquakem v. 7.2AQ1

Results from time period:

Wed Jul 23 08:52:55 2025

Wed Jul 23 10:49:30 2025

Sample Id	Sam/Ctr/c/	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPBCN	A	Total CN	P	0.0471	µg/l	7/23/2025 8:52:55	
5.0PPBCN	A	Total CN	P	4.5897	µg/l	7/23/2025 8:52:56	
10PPBCN	A	Total CN	P	9.9117	µg/l	7/23/2025 8:52:57	
50PPBCN	A	Total CN	P	49.6856	µg/l	7/23/2025 8:52:58	
100PPBCN	A	Total CN	P	97.6753	µg/l	7/23/2025 8:52:59	
250PPBCN	A	Total CN	P	255.1769	µg/l	7/23/2025 8:53:00	
500PPBCN	A	Total CN	P	497.9138	µg/l	7/23/2025 8:53:01	
ICV1	S	Total CN	P	92.5929	µg/l	7/23/2025 10:15:41	
ICB1	S	Total CN	P	0.4452	µg/l	7/23/2025 10:15:42	
CCV1	S	Total CN	P	246.6779	µg/l	7/23/2025 10:15:45	
CCB1	S	Total CN	P	0.1852	µg/l	7/23/2025 10:15:47	
RL CHECK	S	Total CN	P	4.8457	µg/l	7/23/2025 10:15:48	
PB168950BL	S	Total CN	P	0.3179	µg/l	7/23/2025 10:23:15	
PB168950BS	S	Total CN	P	93.5863	µg/l	7/23/2025 10:23:18	
MIDPB168950	S	Total CN	P	245.3435	µg/l	7/23/2025 10:23:19	
Q2653-01	S	Total CN	P	0.1428	µg/l	7/23/2025 10:23:22	
Q2653-01DUP	S	Total CN	P	0.049	µg/l	7/23/2025 10:23:24	
Q2653-01MS	S	Total CN	P	39.002	µg/l	7/23/2025 10:29:28	
Q2653-01MSD	S	Total CN	P	39.5675	µg/l	7/23/2025 10:29:29	
CCV2	S	Total CN	P	255.9749	µg/l	7/23/2025 10:49:29	
CCB2	S	Total CN	P	0.7353	µg/l	7/23/2025 10:49:30	

Calibration results

Aquakem 7.2AQ1

Page:

Alliance Technical Group  
284 Sheffield Street, Mountainside, NJ 07092

7/23/2025 8:54

Reviewed by : RH

Instrument ID : Konelab

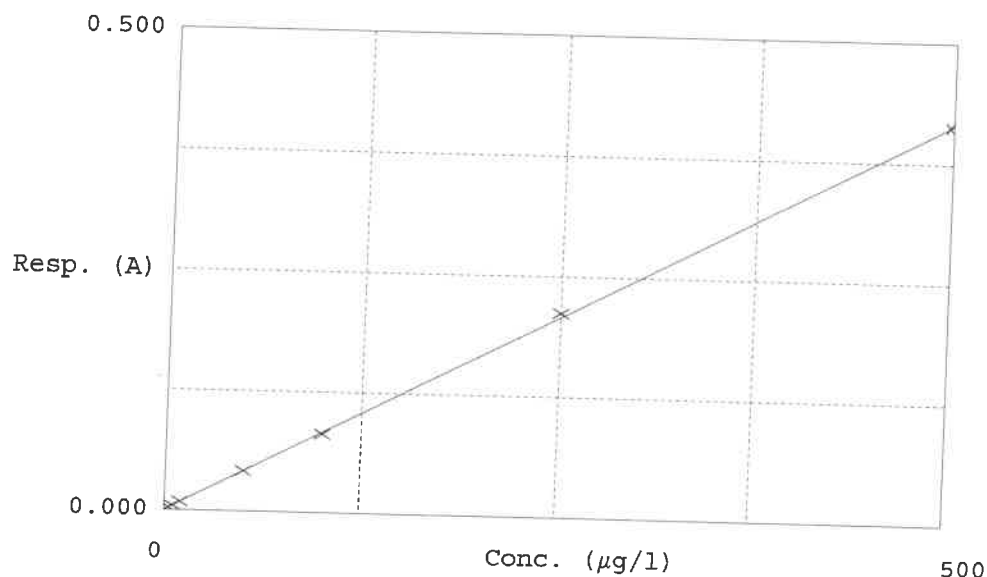
Test Total CN

Accepted 7/23/2025 8:54

Factor 1207  
Bias 0.001

Coeff. of det. 0.999821

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	0.0PPBCN	0.001	0.0471	0.0000	-
2	5.0PPBCN	0.004	4.5897	5.0000	-8.2
3	10PPBCN	0.009	9.9117	10.0000	-0.9
4	50PPBCN	0.042	49.6856	50.0000	-0.6
5	100PPBCN	0.081	97.6753	100.0000	-2.3
6	250PPBCN	0.212	255.1769	250.0000	2.1
7	500PPBCN	0.413	497.9138	500.0000	-0.4

07/23/2025  
RH

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

SDG No : N/A

Start Digest Date: 07/23/2025 Time : 08:00 Temp : 123 °C

Matrix : WATER

End Digest Date: 07/23/2025 Time : 09:30 Temp : 126 °C

Pipette ID : WC

Balance ID : N/A

Hood ID : HOOD#1

Digestion tube ID : M5595

Block Thermometer ID : WC CYANIDE

Block ID : MC-1, MC-2

Filter paper ID : N/A

Prep Technician Signature:

Weigh By : N/A

pH Meter ID : N/A

Supervisor Signature:

Standardized Name	MLS USED	STD REF. # FROM LOG
LCSW	1.0ML	WP113838
MS/MSD SPIKE SOL.	0.40ML	WP113837
PBW	50.ML	W3112
RL CHECK	50.ML	WP114048
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
0.25N NaOH	50.ML	WP113836
50% v/v H2SO4	5.ML	WP112826
51% w/v MgCL2	2.ML	WP112827
pH Paper 0-14	N/A	W3215
Nitrate/Nitrite Strip	N/A	W3101
Lead Acetate strip	N/A	W3134
KI-starch paper	N/A	W3155
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
S0	S0	N/A	N/A
S5.0	S5.0	N/A	N/A
S10.0	S10.0	N/A	N/A
S100.0	S100.0	N/A	N/A
S250.0	S250.0	N/A	N/A
S500.0	S500.0	N/A	N/A
ICV	ICV	0.5ML	W3012
ICB	ICB	N/A	N/A
CCV	CCV	N/A	N/A
CCB	CCB	N/A	N/A
Midrange	Midrange	2.5ML	WP113837
HIGHSTD	HIGHSTD	N/A	N/A
LOWSTD	LOWSTD	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
07/23/2025 09:40	JP / AL	RH (MC)
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB168950BL	PBW950	50	50	>12	Negative	Negative	Negative	N/A	N/A
PB168950BS	LCS950	50	50	>12	Negative	Negative	Negative	N/A	N/A
Q2653-01DUP	WASTEWATER Q3DUP	50	50	>12	Negative	Negative	Negative	N/A	N/A
Q2653-01MS	WASTEWATER Q3MS	50	50	>12	Negative	Negative	Negative	N/A	N/A
Q2653-01MSD	WASTEWATER Q3MSD	50	50	>12	Negative	Negative	Negative	N/A	N/A
Q2653-01	WASTEWATER Q3	50	50	>12	Negative	Negative	Negative	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : cn q2654 w

WorkList ID : 190862

Department : Distillation

Date : 07-22-2025 08:45:41

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2653-01 B	WASTEWATER Q3	Water	Cyanide	1:1 NaOH to pH >12	METE01	O52	07/21/2025	SM4500-CN C

Date/Time 07/23/2025 07:30  
Raw Sample Received by: [Signature]  
Raw Sample Relinquished by: [Signature]

Date/Time 07/23/2025 08:20  
Raw Sample Received by: [Signature]  
Raw Sample Relinquished by: [Signature]

**Instrument ID:** KONELAB

**Daily Analysis Runlog For Sequence/QC Batch ID # LB136582**

Review By	rubina	Review On	7/23/2025 3:09:24 PM
Supervise By	Iwona	Supervise On	7/23/2025 3:36:18 PM
SubDirectory	LB136582	Test	Cyanide
<b>STD. NAME</b>	<b>STD REF.#</b>		
ICAL Standard	WP114043,WP114044,WP114045,WP114046,WP114047,WP114048,WP114049		
ICV Standard	W3012		
CCV Standard	WP114044		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP113838		
Chk Standard	WP112643,WP112900,WP114051		

Sr#	SampleID	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	07/23/25 08:52		rubina	OK
2	5.0PPBCN	5.0PPBCN	CAL2	07/23/25 08:52		rubina	OK
3	10PPBCN	10PPBCN	CAL3	07/23/25 08:52		rubina	OK
4	50PPBCN	50PPBCN	CAL4	07/23/25 08:52		rubina	OK
5	100PPBCN	100PPBCN	CAL5	07/23/25 08:52		rubina	OK
6	250PPBCN	250PPBCN	CAL6	07/23/25 08:53		rubina	OK
7	500PPBCN	500PPBCN	CAL7	07/23/25 08:53		rubina	OK
8	ICV1	ICV1	ICV	07/23/25 10:15		rubina	OK
9	ICB1	ICB1	ICB	07/23/25 10:15		rubina	OK
10	CCV1	CCV1	CCV	07/23/25 10:15		rubina	OK
11	CCB1	CCB1	CCB	07/23/25 10:15		rubina	OK
12	RL	RL	LOQ	07/23/25 10:15		rubina	OK
13	PB168950BL	PB168950BL	MB	07/23/25 10:23		rubina	OK
14	PB168950BS	PB168950BS	LCS	07/23/25 10:23		rubina	OK
15	MIDPB168950	MIDPB168950	SAM	07/23/25 10:23		rubina	OK
16	Q2653-01	WASTEWATER Q3	SAM	07/23/25 10:23		rubina	OK
17	Q2653-01DUP	WASTEWATER Q3DUP	DUP	07/23/25 10:23		rubina	OK
18	Q2653-01MS	WASTEWATER Q3MS	MS	07/23/25 10:29		rubina	OK



**Instrument ID:** KONELAB

**Daily Analysis Runlog For Sequence/QC Batch ID # LB136582**

Review By	rubina	Review On	7/23/2025 3:09:24 PM
Supervise By	Iwona	Supervise On	7/23/2025 3:36:18 PM
SubDirectory	LB136582	Test	Cyanide

STD. NAME	STD REF.#
ICAL Standard	WP114043,WP114044,WP114045,WP114046,WP114047,WP114048,WP114049
ICV Standard	W3012
CCV Standard	WP114044
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP113838
Chk Standard	WP112643,WP112900,WP114051

19	Q2653-01MSD	WASTEWATER Q3MSD	MSD	07/23/25 10:29		rubina	OK
20	CCV2	CCV2	CCV	07/23/25 10:49		rubina	OK
21	CCB2	CCB2	CCB	07/23/25 10:49		rubina	OK

**Instrument ID:** WC PH METER-1

**Daily Analysis Runlog For Sequence/QC Batch ID # LB136589**

Review By	Baldev	Review On	7/24/2025 8:52:09 AM
Supervise By	JSathvara	Supervise On	7/24/2025 9:01:35 AM
SubDirectory	LB136589	Test	Field pH
<b>STD. NAME</b>	<b>STD REF.#</b>		
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	W3217,W3178,W3191,W3093,W3093,W3093		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	07/21/25 10:36		gorge	OK
2	CAL2	CAL2	CAL	07/21/25 10:38		gorge	OK
3	CAL3	CAL3	CAL	07/21/25 10:40		gorge	OK
4	ICV	ICV	ICV	07/21/25 10:43		gorge	OK
5	CCV1	CCV1	CCV	07/21/25 10:56		gorge	OK
6	Q2653-01	WASTEWATER Q3	SAM	07/21/25 11:03		gorge	OK
7	Q2653-01DUP	WASTEWATER Q3DUP	DUP	07/21/25 11:08		gorge	OK
8	CCV2	CCV2	CCV	07/21/25 11:12		gorge	OK

### Prep Standard - Chemical Standard Summary

**Order ID :** Q2653

**Test :** Cyanide,Field pH

**Prepbatch ID :** PB168950,

**Sequence ID/Qc Batch ID:** LB136582, LB136589,

**Standard ID :**

WP112643, WP112826, WP112827, WP112900, WP113836, WP113837, WP113838, WP114042, WP114043, WP114044, WP114045, WP114046, WP114047, WP114048, WP114049, WP114051,

**Chemical ID :**

M6041, M6151, W2668, W3012, W3019, W3093, W3101, W3112, W3113, W3139, W3152, W3178, W3191, W3203, W3214, W3215, W3217, W3224,

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
539	CN BUFFER	<a href="#">WP112643</a>	04/09/2025	10/09/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCS-5)	None	Iwona Zarych 04/09/2025
<b><u>FROM</u></b> 138.00000gram of W2668 + 862.00000ml of W3112 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipettelD</u>	<u>Supervised By</u>
1714	Sulfuric Acid, 50% (v/v)	<a href="#">WP112826</a>	04/25/2025	10/25/2025	Rubina Mughal	None	None	Iwona Zarych 04/25/2025
<b><u>FROM</u></b> 1000.00000ml of M6041 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3214	Magnesium Chloride For Cyanide 2.5M(51%W/V)	<a href="#">WP112827</a>	04/25/2025	10/25/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Iwona Zarych 04/25/2025
<b><u>FROM</u></b> 500.00000ml of W3112 + 510.00000gram of W3152 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
607	PYRIDINE-BARBITURIC ACID	<a href="#">WP112900</a>	05/01/2025	08/18/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	Glass Pipette-A	Iwona Zarych 05/01/2025
<u>FROM</u>	145.00000ml of W3112 + 15.00000gram of W3203 + 15.00000ml of M6151 + 75.00000ml of W3019 = Final Quantity: 250.000 ml							



<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	<a href="#">WP113836</a>	07/08/2025	12/31/2025	Rubina Mughal	WETCHEM_S CALE_8 (WC SC-7)	None	Iwona Zarych  07/08/2025
<b><u>FROM</u></b>	21.00000L of W3112 + 210.00000gram of W3113 = Final Quantity: 21.000 L							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3850	Cyanide MS-MSD spiking solution, 5PPM	<a href="#">WP113837</a>	07/08/2025	11/30/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 07/08/2025
<b><u>FROM</u></b> 1.00000ml of W3214 + 199.00000ml of WP113836 = Final Quantity: 200.000 ml								

## Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3371	Cyanide LCS Spike Solution, 5PPM	<a href="#">WP113838</a>	07/08/2025	12/24/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3	Iwona Zarych

(WC)

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

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3456	Cyanide Intermediate Working Std, 5PPM	<a href="#">WP114042</a>	07/23/2025	07/24/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3	Iwona Zarych

(WC)

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



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4	Calibration standard 500 ppb	<a href="#">WP114043</a>	07/23/2025	07/24/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
<p><b>FROM</b> 45.00000ml of WP113836 + 5.00000ml of WP114042 = Final Quantity: 50.000 ml</p>								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3761	Calibration-CCV CN Standard 250 ppb	<a href="#">WP114044</a>	07/23/2025	07/24/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
<b>FROM</b> 2.50000ml of WP114042 + 47.50000ml of WP113836 = Final Quantity: 50.000 ml <div></div>								



## 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>
6	Calibration Standard 100 ppb	<a href="#">WP114045</a>	07/23/2025	07/24/2025	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych  07/24/2025
<b>FROM</b> 1.00000ml of WP114042 + 49.00000ml of WP113836 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
7	Calibration Standard 50 ppb	<a href="#">WP114046</a>	07/23/2025	07/24/2025	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych  07/24/2025
<b>FROM</b> 0.50000ml of WP114042 + 49.50000ml of WP113836 = Final Quantity: 50.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
8	Calibration Standard 10 ppb	<a href="#">WP114047</a>	07/23/2025	07/24/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
<p><b>FROM</b> 1.00000ml of WP114043 + 49.00000ml of WP113836 = Final Quantity: 50.000 ml</p>								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
9	Calibration Standard 5 ppb	<a href="#">WP114048</a>	07/23/2025	07/24/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
<p>(WC)</p> <p><b>FROM</b> 0.50000ml of WP114043 + 49.50000ml of WP113836 = Final Quantity: 50.000 ml</p>								

## Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
167	0 ppb CN calibration std	<a href="#">WP114049</a>	07/23/2025	07/24/2025	Rubina Mughal	None	None	Iwona Zarych
								07/24/2025

**FROM** 50.00000ml of WP113836 = Final Quantity: 50.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1582	Chloramine T solution, 0.014M	<a href="#">WP114051</a>	07/23/2025	07/24/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	Glass Pipette-A	Iwona Zarych
								07/24/2025

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

## CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	08/16/2024 / mohan	08/16/2024 / mohan	M6041

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	08/18/2025	02/18/2025 / Sagar	01/15/2025 / Sagar	M6151

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
SIGMA ALDRICH	270970-1L / Pyridine 1L	SHBQ2113	04/03/2028	04/03/2023 / Iwona	04/03/2023 / Iwona	W3019

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	566002 / BUFFER PH 7.00 GREEN 1PINT PK6	44001f99	12/31/2025	04/03/2024 / jignesh	04/02/2024 / jignesh	W3093

## CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	470112-662 / TEST STRIPES, NITRATE/NITRITE, PK50	402403	04/30/2026	05/02/2024 / Iwona	04/10/2024 / Iwona	W3101

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14055-3 / PH 4 BUFFER SOLUTION	2411A93	10/30/2026	04/01/2025 / JIGNESH	01/27/2025 / jignesh	W3178

## CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1601-1 / PH 10.01 BUFFER,COLOR CD 475ML	2410F80	03/31/2026	04/01/2025 / JIGNESH	03/13/2025 / jignesh	W3191

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EM-BX0035-3 / Barbituric Acid, 100 gms	WXBF3271V	05/16/2029	04/21/2025 / lwona	04/21/2025 / lwona	W3203

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140444 / TEST PAPERS,PH 0-14,.5 SENSI,100PK	10D3242	12/31/2028	06/09/2025 / lwona	06/09/2025 / lwona	W3215

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14455-3 / buffer solution pH 7 yellow	2504D34	03/31/2027	07/02/2025 / jignesh	06/26/2025 / lwona	W3217

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

W3019  
rec 4/3/23

3050 Spruce Street, Saint Louis, MO 63103, USA

Website: [www.sigmaaldrich.com](http://www.sigmaaldrich.com)Email USA: [techserv@sial.com](mailto:techserv@sial.com)Outside USA: [eurtechserv@sial.com](mailto:eurtechserv@sial.com)

## Certificate of Analysis

Product Name:

Pyridine - anhydrous, 99.8%

Product Number:

270970

Batch Number:

SHBQ2113

Brand:

SIAL

CAS Number:

110-86-1

MDL Number:

MFCD00011732

Formula:

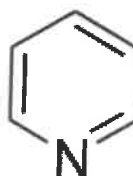
C<sub>5</sub>H<sub>5</sub>N

Formula Weight:

79.10 g/mol

Quality Release Date:

15 DEC 2022



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

  
Larry Coers, Director  
Quality Control  
Sheboygan Falls, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://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.





R: 02/20/20  
53

**Instructions for QATS Reference Material: Inorganic ICV Solutions**

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

**ICV5-0415**

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

**ICV6-0400**

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

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

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

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

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

W3011  
W3012  
W3013  
W3014  
W3015



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

avantor™



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

## Certificate of Analysis

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

>>> Continued on page 2 >>>

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

 **avantorsm**



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

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

For Laboratory, Research, or Manufacturing Use

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

  
Jamie Ethier  
Vice President Global Quality

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

 **avantor™**



M6151

R → 11/15/25

Material No.: 9530-33  
Batch No.: 22G2862015  
Manufactured Date: 2022-06-15  
Retest Date: 2027-06-14  
Revision No.: 0

## Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid–base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl <sub>2</sub> )	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO <sub>4</sub> )	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO <sub>4</sub> )	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO <sub>3</sub> )	≤ 0.8 ppm	0.3 ppm
Ammonium (NH <sub>4</sub> )	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

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

 **avantorsm**



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

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

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



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

Test	Specification	Result
------	---------------	--------

For Laboratory, Research, or Manufacturing Use  
Product Information (not specifications):  
Appearance (clear, fuming liquid)  
Meets ACS Specifications  
Storage Condition: Store below 25 °C.

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

A handwritten signature in cursive script that reads 'Jamie Ethier'.  
Jamie Ethier  
Vice President Global Quality

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

(sodium dihydrogen phosphate, monohydrate)



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

## Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

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

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

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

  
Jamie Ethier  
Vice President Global Quality

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

**RICCA CHEMICAL COMPANY®**

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Batesville, IN 47006

<http://www.riccachemical.com>

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customerservice@riccachemical.com

# Certificate of Analysis

W3093  
004121  
04/03/2024  
16

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

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

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

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

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

Test	Specification	Result
Appearance	Yellow liquid	Passed

\*Not a certified value.

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

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

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

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

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



Paul Brandon (01/08/2024)

Production Manager

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

**This product was tested in an ISO 17025 Accredited Laboratory**

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





# Certificate of Analysis



## Sodium Hydroxide (Pellets)

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

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

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

Storage: Room Temperature

Pellets

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

Internal ID #: 710

### Signature

We certify that this batch conforms to the specifications listed.

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

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

### Additional Information

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

Product meets analytical specifications of the grades listed.



## Sodium Hydroxide (Pellets)

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

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

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

Storage: Room Temperature

Pellets

Spec Set: 0583ACS

Internal ID #: 710

### Signature

We certify that this batch conforms to the specifications listed.

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

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

### Additional Information

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

Product meets analytical specifications of the grades listed.

W3139 Received on 9/9/24 by IZ

Product No.: A12044  
Product: Chloramine-T trihydrate, 98%  
Lot No.: 10239484

Appearance:	White powder
Melting Point:	166°C(dec)
Assay (Iodometric titration):	100.5%
Identification (FTIR):	Conforms

Order our products online [thermofisher.com/chemicals](https://thermofisher.com/chemicals)

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

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

# *Chem-Impex International, Inc.*

---

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

935 Dillon Drive

Wood Dale, IL 60191

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

825 Dillon Drive

Wood Dale, IL 60191

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## *Certificate of Analysis*

<b>Catalogue Number</b>	01237
<b>Lot Number</b>	002126-2019-201
<b>Product</b>	<b>Magnesium chloride hexahydrate</b>

Magnesium chloride•6H<sub>2</sub>O

<b>CAS Number</b>	7791-18-6
<b>Molecular Formula</b>	MgCl <sub>2</sub> •6H <sub>2</sub> O

<b>Molecular Weight</b>	203.3
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<b>Appearance</b>	White crystals
<b>Solubility</b>	167 g in 100 mL water
<b>Melting Point</b>	~ 115 °C
<b>Heavy Metals</b>	4.393 ppm
<b>Anion</b>	Nitrate (NO <sub>3</sub> ) : < 0.001% Phosphate (PO <sub>4</sub> ) : < 5 ppm Sulfate (SO <sub>4</sub> ) : < 0.002%
<b>Cation</b>	Ammonium (NH <sub>4</sub> ) : < 0.002% Barium (Ba) : 0.005% Calcium (Ca) : 0.01% Iron (Fe) : 4.5 ppm Manganese (Mn) : 0.624 ppm Potassium (K) : 0.004% Sodium (Na) : 0.000003% Strontium (Sr) : 0.005%
<b>Insoluble material</b>	0.0021%
<b>Assay by titration</b>	100.83%
<b>Grade</b>	ACS reagent
<b>Storage</b>	Store at RT

## ***Certificate of Analysis***

**Catalog Number: 01237**

**Lot Number: 002126-2019-201**

---

**Remarks**

See material safety data sheet for additional information

For laboratory use only

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

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

**Bala Kumar**  
**Quality Control Manager**

**RICCA CHEMICAL COMPANY®**

1841 Broad Street  
Pocomoke City, MD 21851  
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[customerservice@riccachemical.com](mailto:customerservice@riccachemical.com)

# Certificate of Analysis

021758 58

Buffer, Reference Standard, pH 4.00 ± 0.01 at 25°C (Color Coded Red)

Lot Number: 2411A93

Product Number: 1501

Manufacture Date: NOV 04, 2024

Expiration Date: OCT 2026

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

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

°C	0	5	10	15	20	25	30	35	40	45	50
pH	4.00	4.00	4.00	4.00	4.00	4.00	4.01	4.02	4.03	4.04	4.06

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Acid Phthalate	877-24-7	Buffer
Preservative	Proprietary	Commercial
Red Dye	Proprietary	Purified

Test	Specification	Result
Appearance	Red liquid	Passed

\*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	4.008	0.02	185i, 186-I-g, 186-II-g

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

pH measurements were performed in our Pocomoke City, MD laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.01) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1501-16	500 mL natural poly	24 months
1501-2.5	10 L Cubitainer®	24 months
1501-5	20 L Cubitainer®	24 months

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



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Certificate of Analysis

Buffer, Reference Standard, pH 10.00 ± 0.01 at 25°C (Color Coded Blue)

Lot Number: 2410F80

Product Number: 1601

Manufacture Date: OCT 09, 2024

Expiration Date: MAR 2026

The certified value for this product is confirmed in independent testing by a second qualified chemist.  
The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	0	5	10	15	20	25	30	35	40	50
pH	10.31	10.23	10.17	10.11	10.05	10.00	9.95	9.91	9.87	9.81

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Carbonate	497-19-8	ACS
Sodium Bicarbonate	144-55-8	ACS
Sodium Hydroxide	1310-73-2	Reagent
Preservative	Proprietary	
Blue Dye	Proprietary	

Test	Specification	Result
Appearance	Blue liquid	Passed

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	10.009	0.02	186-I-g, 186-II-g, 191d

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

pH measurements were performed in our Pocomoke City, MD laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.01) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1601-1	4 L natural poly	18 months
1601-16	500 mL natural poly	18 months
1601-1CT	4 L Cubitainer®	18 months
1601-2.5	10 L Cubitainer®	18 months
1601-32	1 L natural poly	18 months
1601-5	20 L Cubitainer®	18 months

Version: 1.3

Lot Number: 2410F80

Product Number: 1601

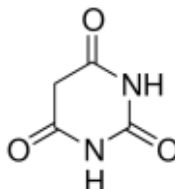
Page 1 of 2

## Certificate of Analysis

Product Name:

Barbituric acid - ReagentPlus®, 99%

Product Number: 185698  
Batch Number: WXBFB3271V  
Brand: SIAL  
CAS Number: 67-52-7  
Formula: C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O<sub>3</sub>  
Formula Weight: 128.09 g/mol  
Quality Release Date: 16 MAY 2024



Test	Specification	Result
Appearance (Colour)	White to Off-White	White
Appearance (Form)	Powder	Powder
Infrared spectrum	Conforms to Structure	Conforms
Purity (Titration by NaOH)	98.5 - 101.5 %	100.4 %
GC (area %)	≥ 98 %	100 %
VPCT		



Kang Chen  
Quality Manager  
Wuxi, China CN

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://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

## Cyanide Standard, 1000 ppm CN<sup>-</sup>

**Lot Number:** 1505H73

**Product Number:** 2543

**Manufacture Date:** MAY 08, 2025

**Expiration Date:** NOV 2025

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certified traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.

Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard. Restandardize weekly if extreme accuracy is required.

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

Test	Specification	Result
Appearance	Colorless liquid	Passed
Cyanide (CN <sup>-</sup> )	995-1005 ppm	1000 ppm

Specification	Reference
Stock Standard Cyanide Solution	APHA (4500-CN- F)
Stock Cyanide Solution	APHA (4500-CN- E)
Stock Cyanide Solution	APHA (4500-CN- K)
Stock Cyanide Solution	APHA (4500-CN- H)
Cyanide Reference Solution (1000 mg/L)	EPA (SW-846) (7.3.3.2)
Cyanide Calibration Stock Solution (1,000 mg/L CN <sup>-</sup> )	EPA (SW-846) (9213)
Stock Cyanide Solution	EPA (335.3)
Stock Cyanide Solution	EPA (335.2)
Cyanide Solution Stock	ASTM (D 4282)
Simple Cyanide Solution, Stock (1.0 g/L CN <sup>-</sup> )	ASTM (D 4374)

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

Part Number	Size / Package Type	Shelf Life (Unopened Container)
2543-16	500 mL amber poly	6 months
2543-32	1 L amber poly	6 months
2543-4	120 mL amber poly	6 months

**Recommended Storage:** 2°C - 8°C (36°F - 46°F)



Ernest Mahan (05/08/2025)  
Plant Manager

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# Certificate of Analysis

**Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)**

**Lot Number:** 2504D34

**Product Number:** 1551

**Manufacture Date:** APR 03, 2025

**Expiration Date:** MAR 2027

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

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

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

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

Test	Specification	Result
Appearance	Yellow liquid	Passed *Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	7.003	0.02	186-I-g, 186-II-g, 191d

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

pH measurements were performed in our Pocomoke City, MD laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.01) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1551-2.5	10 L Cubitainer®	24 months
1551-20	20 x 20 mL pack	24 months
1551-32	1 L natural poly	24 months
1551-5	20 L Cubitainer®	24 months

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



Jose Pena (04/03/2025)  
Operations Manager

**This product was tested in an ISO 17025 Accredited Laboratory**

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Part of TCP Analytical Group

Jackson's Pointe Commerce Park- Building 1000  
1010 Jackson's Pointe Court, Zelienople, PA 16063

## Certificate of Analysis

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

Product Code: **LC13545**

Manufacture Date: June 25, 2025

Lot Number: **45060288**

Expiration Date: December 24, 2025

Test	Specification	Result
Appearance (clarity)	clear solution	clear solution
Appearance (color)	colorless	colorless
Concentration (CN)	0.990 - 1.010mg/mL	1.000mg/mL
Concentration (CN)	990 - 1,010ppm	1,000ppm
Traceable to NIST SRM	Report	999b

**Intended Use** - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

**Storage Information** - Unless noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

**Instructions for Handling and Use** - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

**Preparation** - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST

\*The suffix of the product code may differ from what is on your product label. The suffix will designate the size and be associated with a numeric digit(s). Visit [LabChem.com](http://LabChem.com) for more information\*

Suffix	1	2	3/3S/36/36S	4/4C	5	6	7	8	9	20	44	200	246	486
Size	500mL org	1L or 1kg	2.5L/2.5L Coated/6x2.5L/6x2.5L Coated	4L	20L	10L	125mL	25g	100g	20x20mL	4x4L	200L	24x6mL	48x6mL

*Michael Monteleone*

Michael Monteleone  
Chemistry Supervisor - Quality Control  
20250703 15:30:45ahoffman-0-0

ISO9001:2015 Registration #0306-01



# SHIPPING DOCUMENTS

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: **Metem A GE Power Business**

ADDRESS: **700 Parsippany Road**

CITY **Parsippany** STATE: **NJ** ZIP: **07054**

ATTENTION: **Sundas Pervez**

PHONE: **973-887-6635** FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: **Parsippany Wastewater Quarterly 2025**

PROJECT NO.: LOCATION:

PROJECT MANAGER:

e-mail:

PHONE:

FAX:

CLIENT BILLING INFORMATION

BILL TO: PO#:

ADDRESS:

CITY STATE: ZIP:

ATTENTION: PHONE:

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) DAYS\*

HARDCOPY (DATA PACKAGE): DAYS\*

EDD: DAYS\*

\*TO BE APPROVED BY CHEMTECH

STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

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

1	2	3	4	5	6	7	8	9
metals								
Cyanide								
Field PH								

ALLIANCE  
SAMPLE  
ID

PROJECT  
SAMPLE IDENTIFICATION

SAMPLE  
MATRIX

SAMPLE  
TYPE  
COMP GRAB

SAMPLE  
COLLECTION  
DATE TIME

# OF BOTTLES

PRESERVATIVES

COMMENTS

← Specify Preservatives  
A-HCl D-NaOH  
B-HNO3 E-ICE  
C-H2SO4 F-OTHER

1.	wastewater Q3	W	✓	7-21-25	1100	3	✓	✓	✓									PH 7.67
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

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

RELINQUISHED BY SAMPLER: 1.	DATE/TIME: <b>7-21-25 11:00 AM</b>	RECEIVED BY: 	1103 7-21-25	Conditions of bottles or coolers at receipt: <input type="checkbox"/> COMPLIANT <input type="checkbox"/> NON COMPLIANT <input type="checkbox"/> COOLER TEMP <b>3.9°</b> °C
RELINQUISHED BY SAMPLER: 2.	DATE/TIME:	RECEIVED BY:		Comments:
RELINQUISHED BY SAMPLER: 3.	DATE/TIME: <b>7-21-25</b>	RECEIVED BY:		

Page \_\_\_\_ of \_\_\_\_

CLIENT: ☐ Hand Delivered ☐ Other

Shipment Complete  
☐ YES ☐ NO

284 Sheffield Street, Mountainside, NJ 07092 Tel. 908-789-8900 Fax 908-789-8922  
FIELD SAMPLING LOG

Project Name: Parsippany wastewater treatment

Project Location: Parshipany 2025

Cooler Custody Seal: N/A

Temperature Correction Factor (°C): 0

Departure Time: 1115

## FIELD SAMPLING INFORMATION

[illegible]

**Sampler Signature/Date:** [Signature] 7.21.25

Supervisor Review/Date: \_\_\_\_\_



**FIELD SAMPLING LOG**Client Name: Metem AGE power BusinessClient Address: 700 Parsippany RoadClient Rep on Site: Sundas PervozSampling Date: 7-21-25Arrival Time: 1030Departure Time: 1115Project Name: Parsippany wastewater Quarterly2025Project Location: ParsippanyCooler Custody Seal: N/ATemperature Correction Factor (°C): 0**FIELD EQUIPMENT CALIBRATION**

pH Calibration (SM4500-H B/9040C)				ICV (± 0.1 pH unit)
Calibration				7.00 Buffer
	W	W	W	W
	7.00 Buffer 3217	4.00 Buffer 3178	10.00 Buffer 3191	7.00 Buffer 3093
Time	1036	1038	1040	1043
Temp °C	20.1°	20.5°	21.8°	21.2°
pH	7.02	4.04	10.00	7.03

**FIELD EQUIPMENT CALIBRATION**

Specific Conductance (mS/cm) (99% -101%)/(mmho/cm) (SM2510 B/120.1/9050A)	
Calibration (± 1%) (99% -101%)	ICV (± 1%) (99% -101%)
WP	WP
Time	
Temp °C	
Reading (mS/cm)	

Signature/Date:

 7-21-25

Supervisor Review/Date: \_\_\_\_\_

### 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