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

DATA PACKAGE

GENERAL CHEMISTRY

PROJECT NAME : SEPT-23

ELEGANT JEWELERS MFG. CO. INC.

31 West 47th Street

Suite 301

New York, NY - 10036

Phone No: 212-869-4951

ORDER ID : P5297

ATTENTION : Sandy Petropoulos

Laboratory Certification ID # 20012

Table Of Contents for P5297

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Cover Page

Order ID : P5297

Project ID : SEPT-23

Client : Elegant Jewelers Mfg. Co. Inc.

Lab Sample Number	Client Sample Number
P5297-01	CN-1-4-COMPOSITE
P5297-02	SEPT-23

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: 4/29/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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

CASE NARRATIVE

Elegant Jewelers Mfg. Co. Inc.
Project Name: SEPT-23
Project # N/A
Chemtech Project # P5297
Test Name: Cyanide,Cyanide-Amenable

A. Number of Samples and Date of Receipt:
2 Water samples were received on 12/19/2024.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Cyanide, Cyanide-Amenable, Mercury, Metals Group1 and Metals ICP-Group1. This data package contains results for Cyanide,Cyanide-Amenable.

C. Analytical Techniques:
The analysis of Cyanide-Amenable was based on method SM4500-CN B,G Cyanide-Amenable and The analysis of Cyanide was based on method SM4500-CN C,E.

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

E. Additional Comments:
The temperature of the samples at the time of receipt was 16.4°C. Lab notified this issue to the client. See the communication in shipping Document section.

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

Signature_____

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

DATA REPORTING QUALIFIERS- INORGANIC

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

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

QA Control # A3040961

ALLIANCE **284 Sheffield Street, Mountainside New Jersey 07092**
NEW JERSEY LAB ID#: 20012: NEW YORK LAB ID#: 11376

GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: P5297 MATRIX: Water

METHOD: SM4500-CN B,G Cyanide-Amenable,SM4500-CN C,E

		NA	NO	YES
1.	Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
2.	Matrix Spike Duplicate Recoveries Met Criteria			✓
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			
	The Blank Spike met requirements for all samples.			
3.	Sample Duplicate Analysis Met QC Criteria			✓
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			
8.	Digestion Holding Time Met			✓
	If not met, list number of days exceeded for each sample:			

ADDITIONAL COMMENTS:

_____ _____

QA REVIEW Date

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P5297

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

QA Review Signature: JATIN SATHVARA **Date:** 04/29/2025

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

LAB CHRONICLE

OrderID:	P5297	**OrderDate:**	12/16/2024 11:35:00 AM
Client:	Elegant Jewelers Mfg. Co. Inc.	**Project:**	SEPT-23
Contact:	Sandy Petropoulos	**Location:**	M11

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P5297-01	**CN-1-4-COMPOSITE**	**WATER**			**12/19/24 11:50**			**12/19/24**
			Cyanide	SM4500-CN C,E		12/19/24	12/19/24 15:22	
			Cyanide-Amenable	SM4500-CN B,G Cyanide-Amenable			12/19/24 00:00	

SAMPLE DATA

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Report of Analysis

Client:	Elegant Jewelers Mfg. Co. Inc.	Date Collected:	12/19/24 11:50
Project:	SEPT-23	Date Received:	12/19/24
Client Sample ID:	CN-1-4-COMPOSITE	SDG No.:	P5297
Lab Sample ID:	P5297-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Cyanide	0.0017	J	1	0.0012	0.0050	mg/L	12/19/24 11:00	12/19/24 15:22	SM 4500-CN C-16 plus E-16
Cyanide-Amenable	0.0050	U	1	0.00093	0.0050	mg/L		12/19/24 00:00	SM 4500-CN B-16 plus G-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

QC RESULT SUMMARY

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Initial and Continuing Calibration Verification

Client:	Elegant Jewelers Mfg. Co. Inc.	**SDG No.:**	P5297
Project:	SEPT-23	**RunNo.:**	LB134037

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	**ICV1**						
Cyanide		mg/L	0.099	0.099	100	85-115	12/19/2024
Sample ID:	**CCV1**						
Cyanide		mg/L	0.24	0.25	96	90-110	12/19/2024
Sample ID:	**CCV2**						
Cyanide		mg/L	0.26	0.25	104	90-110	12/19/2024

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Initial and Continuing Calibration Verification

Client:	Elegant Jewelers Mfg. Co. Inc.	**SDG No.:**	P5297
Project:	SEPT-23	**RunNo.:**	LB134037

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date

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Initial and Continuing Calibration Blank Summary

Client:	Elegant Jewelers Mfg. Co. Inc.	**SDG No.:**	P5297
Project:	SEPT-23	**RunNo.:**	LB134037

Analyte		Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID:	**ICB1**							
Cyanide		mg/L	< 0.0025	0.0025	U	0.0012	0.005	12/19/2024
Sample ID:	**CCB1**							
Cyanide		mg/L	< 0.0025	0.0025	U	0.0012	0.005	12/19/2024
Sample ID:	**CCB2**							
Cyanide		mg/L	< 0.0025	0.0025	U	0.0012	0.005	12/19/2024

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Initial and Continuing Calibration Blank Summary

Client:	Elegant Jewelers Mfg. Co. Inc.	**SDG No.:**	P5297
Project:	SEPT-23	**RunNo.:**	LB134037

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date

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Preparation Blank Summary

Client: Elegant Jewelers Mfg. Co. Inc. **SDG No.:** P5297

Project: SEPT-23

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: PB165764BL							
Cyanide	mg/L	< 0.0025	0.0025	U	0.0012	0.005	12/19/2024

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Matrix Spike Summary

Client: Elegant Jewelers Mfg. Co. Inc.
SDG No.: P5297
Project: SEPT-23
Sample ID: P5297-01
Client ID: CN-1-4-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
Cyanide	mg/L	75-125	0.040		0.0017	J	0.04	1	96		12/19/2024

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Matrix Spike Summary

Client: Elegant Jewelers Mfg. Co. Inc.
SDG No.: P5297
Project: SEPT-23
Sample ID: P5297-01
Client ID: CN-1-4-COMPOSITEMSD
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/L	75-125	0.040		0.0017	J	0.04	1	96		12/19/2024

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Duplicate Sample Summary

Client: Elegant Jewelers Mfg. Co. Inc.
SDG No.: P5297
Project: SEPT-23
Sample ID: P5297-01
Client ID: CN-1-4-COMPOSITEDUP
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/L	+/-20	0.0017	J	0.0016	J	1	6		12/19/2024

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Fax : 908 789 8922

Duplicate Sample Summary

Client: Elegant Jewelers Mfg. Co. Inc.
SDG No.: P5297
Project: SEPT-23
Sample ID: P5297-01
Client ID: CN-1-4-COMPOSITEMSD
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/L	+/-20	0.040		0.040		1	0		12/19/2024

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Laboratory Control Sample Summary

Client:	Elegant Jewelers Mfg. Co. Inc.	**SDG No.:**	P5297
Project:	SEPT-23	**Run No.:**	LB134037

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID **PB165764BS**								
Cyanide	mg/L	0.1	0.10		100	1	85-115	12/19/2024

RAW DATA

LB134037

Test results — Aquakem 7.2AQ1 — Page: 1

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

12/19/2024 16:46 — Reviewed by : NF — Instrument ID : Konelab

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	99.320	0.0	0.070	
ICB1	0.151	0.0	0.002	
CCV1	244.152	0.0	0.170	
CCB1	0.079	0.0	0.002	
RL CHECK	4.893	0.0	0.005	97% (50-150)
PB165764BL	0.146	0.0	0.002	
PB165764BS	99.658	0.0	0.070	
MIDPB165764	244.114	0.0	0.170	97%(90-110) NF 12/19/2024
P5297-01	1.749	0.0	0.003	
P5297-01DUP	1.592	0.0	0.003	
P5297-01MS	40.256	0.0	0.029	
P5297-01MSD	39.957	0.0	0.029	
CCV2	257.269	0.0	0.179	
CCB2	0.088	0.0	0.002	

N	14
Mean	73.816
SD	100.8231
CV%	136.59

Aquakem v. 7.2AQ1
Results from time period:
Thu Dec 19 15:15:07 2024
Thu Dec 19 15:26:06 2024

Sample Id	Sam/Ctr/cA	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPBCN	A	Total CN	P	-0.6831	µg/l	12/19/2024 11:2811	
5.0PPBCN	A	Total CN	P	4.7232	µg/l	12/19/2024 11:2812	
10PPBCN	A	Total CN	P	9.3738	µg/l	12/19/2024 11:2813	
50PPBCN	A	Total CN	P	50.6342	µg/l	12/19/2024 11:2814	
100PPBCN	A	Total CN	P	102.7678	µg/l	12/19/2024 11:2815	
250PPBCN	A	Total CN	P	247.5715	µg/l	12/19/2024 11:2816	
500PPBCN	A	Total CN	P	500.6126	µg/l	12/19/2024 11:2817	
ICV1	S	Total CN	P	99.3199	µg/l	12/19/2024 15:1508	
ICB1	S	Total CN	P	0.1507	µg/l	12/19/2024 15:1510	
CCV1	S	Total CN	P	244.1522	µg/l	12/19/2024 15:1511	
CCB1	S	Total CN	P	0.079	µg/l	12/19/2024 15:1513	
RL CHECK	S	Total CN	P	4.8925	µg/l	12/19/2024 15:1515	
PB165764BL	S	Total CN	P	0.1465	µg/l	12/19/2024 15:1517	
PB165764BS	S	Total CN	P	99.6579	µg/l	12/19/2024 15:2244	
MIDPB165764	S	Total CN	P	244.1136	µg/l	12/19/2024 15:2245	
P5297-01	S	Total CN	P	1.7489	µg/l	12/19/2024 15:2247	
P5297-01DUP	S	Total CN	P	1.5922	µg/l	12/19/2024 15:2248	
P5297-01MS	S	Total CN	P	40.2558	µg/l	12/19/2024 15:2251	
P5297-01MSD	S	Total CN	P	39.9569	µg/l	12/19/2024 15:2252	
CCV2	S	Total CN	P	257.269	µg/l	12/19/2024 15:2605	
CCB2	S	Total CN	P	0.0883	µg/l	12/19/2024 15:2606	

Calibration results Aquakem 7.2AQ1 Page: 1

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

Reviewed by : NF Instrument ID : Konelab

12/19/2024 11:28

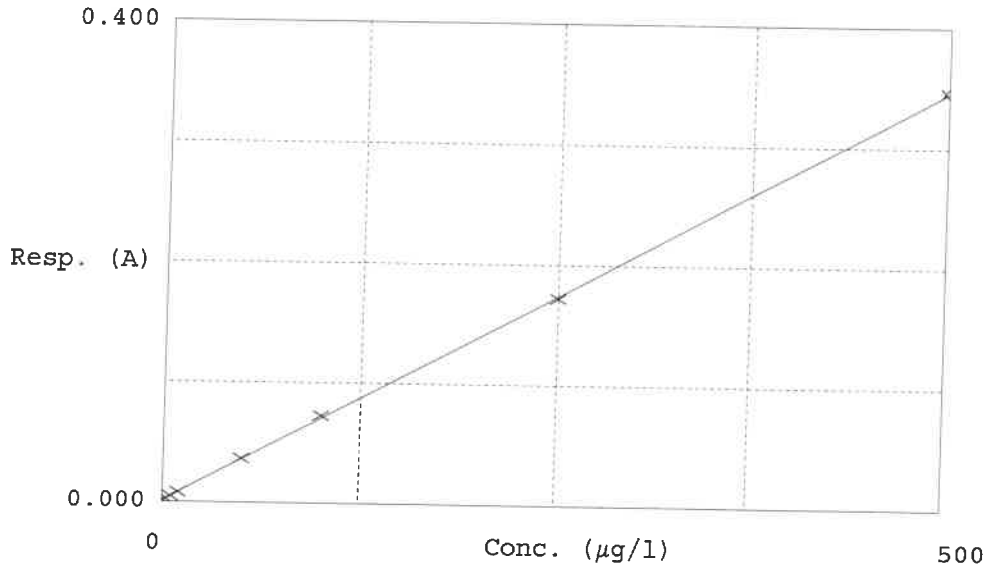
Test Total CN

Accepted 12/19/2024 11:28

Factor 1453
Bias 0.002

Coeff. of det. 0.999926

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors (Re)
1	0.0PPBCN	0.001	-0.6831	0.0000	
2	5.0PPBCN	0.005	4.7232	5.0000	-5.5
3	10PPBCN	0.008	9.3738	10.0000	-6.3
4	50PPBCN	0.037	50.6342	50.0000	1.3
5	100PPBCN	0.072	102.7678	100.0000	2.8
6	250PPBCN	0.172	247.5715	250.0000	-1.0
7	500PPBCN	0.346	500.6126	500.0000	0.1

NF
12.19.2024

Alliance TECHNICAL GROUP

Water Cyanide Preparation Sheet

PB165764

SOP ID : MSM4500-CN C,E-Cyanide-12

SDG No : N/A

Matrix : WATER

Pippete ID : WC

Balance ID : N/A

Hood ID : HOOD#1

Block ID : MC-1,MC-2

Weigh By : N/A

Start Digest Date: 12/19/2024 **Time :** 11:00 **Temp :** 123 °C

End Digest Date: 12/19/2024 **Time :** 12:30 **Temp :** 126 °C

Digestion tube ID : M5595

Filter paper ID : N/A

pH Meter ID : N/A

Block Thermometer ID : WC CYANIDE

Prep Technician Signature: JB

Supervisor Signature: 12

Standared Name	MLS USED	STD REF. # FROM LOG
LCSW	1.0ML	WP109549
MS/MSD SPIKE SOL.	0.4ML	WP110899
PBW	50.0ML	W3112
RL CHECK	50.0ML	WP111155
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
0.25N NaOH	50.0ML	WP108640
50% v/v H2SO4	5.0ML	WP110391
51% w/v MgCL2	2.0ML	WP110390
pH Paper 0-14	N/A	W3140
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	W3011
ICB	ICB	N/A	N/A
CCV	CCV	N/A	N/A
CCB	CCB	N/A	N/A
Midrange	Midrange	2.5ML	WP110899
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
12/19/2024 12.45	JB (6)C	NF (WC)
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Cyanide Preparation Sheet

PB165764

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
P5297-01	CN-1-4-COMPOSITE	50	50	>12	Negative	Negative	Negative	N/A	N/A
P5297-01DUP	CN-1-4-COMPOSITEDUP	50	50	>12	Negative	Negative	Negative	N/A	N/A
P5297-01MS	CN-1-4-COMPOSITEMS	50	50	>12	Negative	Negative	Negative	N/A	N/A
P5297-01MSD	CN-1-4-COMPOSITEMSD	50	50	>12	Negative	Negative	Negative	N/A	N/A
PB165764BL	PBW764	50	50	>12	Negative	Negative	Negative	N/A	N/A
PB165764BS	LCS764	50	50	>12	Negative	Negative	Negative	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : CN SM-12192024 **WorkList ID :** 186490 **Department :** Distillation **Date :** 12-19-2024 10:02:23

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5297-01	CN-1-4-COMPOSITE	Water	Cyanide	1:1 NaOH to pH >12	ELEG01	M11	12/19/2024	SM4500-CN C

Date/Time 12/19/2024 10:20
Raw Sample Received by: COC
Raw Sample Relinquished by: CP (SM)

Date/Time 12/17/2024 11:15
Raw Sample Received by: CP (SM)
Raw Sample Relinquished by: COC

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB134037

Review By	rubina	Review On	12/20/2024 3:43:25 PM
Supervise By	Iwona	Supervise On	12/23/2024 8:56:41 AM
SubDirectory	LB134037	Test	Cyanide

STD. NAME	STD REF.#
ICAL Standard	WP111150,WP111151,WP111152,WP111153,WP111154,WP111155,WP111156
ICV Standard	W3011
CCV Standard	WP111151
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP109549
Chk Standard	WP111035,WP110103,WP111158

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	12/19/24 11:28		rubina	OK
2	5.0PPBCN	5.0PPBCN	CAL2	12/19/24 11:28		rubina	OK
3	10PPBCN	10PPBCN	CAL3	12/19/24 11:28		rubina	OK
4	50PPBCN	50PPBCN	CAL4	12/19/24 11:28		rubina	OK
5	100PPBCN	100PPBCN	CAL5	12/19/24 11:28		rubina	OK
6	250PPBCN	250PPBCN	CAL6	12/19/24 11:28		rubina	OK
7	500PPBCN	500PPBCN	CAL7	12/19/24 11:28		rubina	OK
8	ICV1	ICV1	ICV	12/19/24 15:15		rubina	OK
9	ICB1	ICB1	ICB	12/19/24 15:15		rubina	OK
10	CCV1	CCV1	CCV	12/19/24 15:15		rubina	OK
11	CCB1	CCB1	CCB	12/19/24 15:15		rubina	OK
12	RL	RL	SAM	12/19/24 15:15		rubina	OK
13	PB165764BL	PB165764BL	MB	12/19/24 15:15		rubina	OK
14	PB165764BS	PB165764BS	LCS	12/19/24 15:22		rubina	OK
15	MIDPB165764	MIDPB165764	SAM	12/19/24 15:22		rubina	OK
16	P5297-01	CN-1-4-COMPOSITE	SAM	12/19/24 15:22		rubina	OK
17	P5297-01DUP	CN-1-4-COMPOSITE	DUP	12/19/24 15:22		rubina	OK
18	P5297-01MS	CN-1-4-COMPOSITE	MS	12/19/24 15:22		rubina	OK

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Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB134037

Review By	rubina	Review On	12/20/2024 3:43:25 PM
Supervise By	Iwona	Supervise On	12/23/2024 8:56:41 AM
SubDirectory	LB134037	Test	Cyanide

STD. NAME	STD REF.#
ICAL Standard	WP111150,WP111151,WP111152,WP111153,WP111154,WP111155,WP111156
ICV Standard	W3011
CCV Standard	WP111151
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP109549
Chk Standard	WP111035,WP110103,WP111158

19	P5297-01MSD	CN-1-4-COMPOSITE	MSD	12/19/24 15:22		rubina	OK
20	CCV2	CCV2	CCV	12/19/24 15:26		rubina	OK
21	CCB2	CCB2	CCB	12/19/24 15:26		rubina	OK

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Instrument ID:

Daily Analysis Runlog For Sequence/QCBatch ID

Review By	Review On
Supervise By	Supervise On

STD. NAME	STD REF.#
ICAL Standard	
ICV Standard	
CCV Standard	
ICSA Standard	
CRI Standard	
LCS Standard	
Chk Standard	

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status

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Prep Standard - Chemical Standard Summary

Order ID : P5297

Test : Cyanide,Cyanide-Amenable

Prepbatch ID : PB165764,

Sequence ID/Qc Batch ID: LB134037,LB134065,

Standard ID :
WP108640,WP109549,WP110103,WP110390,WP110391,WP110899,WP111035,WP111149,WP111150,WP111151,WP111152,WP111153,WP111154,WP111155,WP111156,WP111158,

Chemical ID :
E3657,M5673,M6121,W2668,W2882,W3001,W3011,W3019,W3101,W3112,W3138,W3139,W3140,W3154,

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Fax : 908 789 8922

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
11	Sodium hydroxide absorbing solution 0.25 N	WP108640	07/05/2024	01/05/2025	Rubina Mughal	WETCHEM_SCALE_4 (WCSC-4)	None	Iwona Zarych 07/08/2024

FROM 21.00000L of W3112 + 210.00000gram of E3657 = Final Quantity: 21.000 L

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3371	Cyanide LCS Spike Solution, 5PPM	WP109549	09/06/2024	01/05/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 09/06/2024

FROM 1.00000ml of W3138 + 199.00000ml of WP108640 = Final Quantity: 200.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
539	CN BUFFER	WP110103	10/08/2024	04/08/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 10/08/2024

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3214	Magnesium Chloride For Cyanide 2.5M(51%W/V)	WP110390	10/24/2024	04/24/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 10/24/2024

FROM 500.00000ml of W3112 + 510.00000gram of W3001 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1714	Sulfuric Acid, 50% (v/v)	WP110391	10/24/2024	04/24/2025	Niha Farheen Shaik	None	None	Iwona Zarych 10/24/2024

FROM 1000.00000ml of M5673 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3850	Cyanide MS-MSD spiking solution, 5PPM	WP110899	12/02/2024	01/05/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 12/03/2024

FROM 1.00000ml of W3154 + 199.00000ml of WP108640 = Final Quantity: 200.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
607	PYRIDINE-BARBITURIC ACID	WP111035	12/09/2024	04/30/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-5)	Glass Pipette-A	Iwona Zarych 12/10/2024

FROM 145.00000ml of W3112 + 15.00000gram of W2882 + 15.00000ml of M6121 + 75.00000ml of W3019 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3456	Cyanide Intermediate Working Std, 5PPM	WP111149	12/19/2024	12/20/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 12/20/2024

FROM 0.25000ml of W3154 + 49.75000ml of WP108640 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
4	Calibation standard 500 ppb	WP111150	12/19/2024	12/20/2024	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 12/20/2024

FROM 45.00000ml of WP108640 + 5.00000ml of WP111149 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3761	Calibration-CCV CN Standard 250 ppb	WP111151	12/19/2024	12/20/2024	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 12/20/2024

FROM 2.50000ml of WP111149 + 47.50000ml of WP108640 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
6	Calibration Standard 100 ppb	WP111152	12/19/2024	12/20/2024	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 12/20/2024

FROM 1.00000ml of WP111149 + 49.00000ml of WP108640 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
7	Calibration Standard 50 ppb	WP111153	12/19/2024	12/20/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 12/20/2024

FROM 0.50000ml of WP111149 + 49.50000ml of WP108640 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
8	Calibration Standard 10 ppb	WP111154	12/19/2024	12/20/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 12/20/2024

FROM 1.00000ml of WP111150 + 49.00000ml of WP108640 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
9	Calibration Standard 5 ppb	WP111155	12/19/2024	12/20/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 12/20/2024

FROM 0.50000ml of WP111150 + 49.50000ml of WP108640 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
167	0 ppb CN calibration std	WP111156	12/19/2024	12/20/2024	Niha Farheen Shaik	None	None	Iwona Zarych 12/20/2024

FROM 50.00000ml of WP108640 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1582	Chloramine T solution, 0.014M	WP111158	12/19/2024	12/20/2024	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 12/20/2024

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

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19510-5 / Sodium Hydroxide Pellets 2.5 Kg, Pk of 4	23B1556310	12/31/2025	12/04/2023 / Rajesh	12/01/2023 / Rajesh	E3657

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 #
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.	J3818-5 / SODIUM PHOSPHATE, MONOBAS/HYD, CRYS, ACS, 2.5 KG	0000225799	12/03/2025	04/05/2021 / Alexander	02/10/2020 / apatel	W2668

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EM-BX0035-3 / Barbituric Acid, 100 gms	1.00132.0100	04/30/2025	12/07/2021 /	11/30/2021 / apatel	W2882

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	01237-10KG / Megnasium Chloride Hexahydrate ACS 10KG	002251-03319	06/06/2027	01/23/2023 / Iwona	06/06/2022 / Iwona	W3001

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	/ ICV-CN	ICV6-400	12/31/2024	01/03/2024 / Iwona	02/20/2020 / Iwona	W3011

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.	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.	LC135457 / Cyanide Standard, 1000 PPM, Second Source	44080060	01/30/2025	09/06/2024 / Iwona	08/28/2024 / Iwona	W3138

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

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140444 / TEST PAPERS,PH 0-14,.5 SENSI,100PK	10D0142	09/17/2029	09/17/2024 / Iwona	09/17/2024 / Iwona	W3140

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	1411J58	05/31/2025	12/02/2024 / Iwona	12/02/2024 / Iwona	W3154

~~W2918~~ W3001 Rec. 06/06/22 exp. 06/06/27

Chem-Impex International, Inc.

Tel: (630) 766-2112
E-mail: sales@chemimpex.com
Shipping and Correspondence:
935 Dillon Drive
Wood Dale, IL 60191

Fax: (630) 766-2218
Web site: www.chemimpex.com
Manufacturing site:
825 Dillon Drive
Wood Dale, IL 60191

Certificate of Analysis

Catalogue Number	01237
Product	**Magnesium chloride hexahydrate**
Lot Number	002251-03319
	Magnesium chloride•$6H_2O$
CAS Number	7791-18-6
Molecular Formula	$MgCl_2$•$6H_2O$
Molecular Weight	203.3

Appearance	Colorless crystals, very deliquescent
Heavy Metals	< 5 ppm
Anion	Nitrate : < 0.001% Phosphate : < 5 ppm Sulfate : < 0.002%
Cation	Ammonium : < 0.002% Barium : < 0.005% Calcium : 0.0006% Iron : < 5 ppm Manganese : 1.8 ppm Potassium : 0.0006% Sodium : 0.0008% Strontium : 0.0015%
Insoluble material	0.0025%
Assay by titration	100.29%
Grade	ACS reagent
Storage	Store at RT
Country of Origin	India

Certificate of Analysis

Catalog Number: 01237 **Lot Number: 002251-03319**

Remarks	See material safety data sheet for additional information
	For laboratory use only

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

Bala Kumar
Quality Control Manager

Sigma-Aldrich.

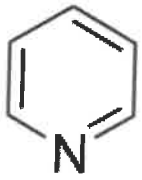
W3019
Rec 4/3/23

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

Certificate of Analysis

Product Name:
Pyridine - anhydrous, 99.8%

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



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

Larry Coers, Director
Quality Control
Sheboygan Falls, WI US

VWR®

Certificate of Analysis

Sodium Hydroxide (Pellets)

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

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

Pellets

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

Storage: Room Temperature

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

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

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

Additional Information

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

Product meets analytical specifications of the grades listed.

E 3657	E 3659
E 3654	E 3660

W3011
W3012
W3013
W3014
W3015

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

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

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

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

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

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

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

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

A15673-78
A-3

avantor™ | J.T.Baker®

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

Certificate of Analysis

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

>>> Continued on page 2 >>>

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

avantor™ | J.T.Baker®

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

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

For Laboratory,Research,or Manufacturing Use

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

James T Ethier

Jamie Ethier
Vice President Global Quality

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

avantor™ | J.T.Baker®

R → 10/13/24
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

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

Certificate of Analysis

1.00132.0000 Barbituric acid for analysis EMSURE®
Batch N020065932

	Spec. Values		Batch Values	
Assay (acidimetric)	≥ 99	%	99.6	%
Identity (IR-spectrum)	passes test		passes test	
Chloride (Cl)	≤ 40	ppm	≤ 40	ppm
Heavy metals (as Pb)	≤ 50	ppm	≤ 50	ppm
Fe (Iron)	≤ 10	ppm	≤ 10	ppm
Sulfated ash	≤ 0.1	%	≤ 0.1	%
Loss on Drying (105 °C)	≤ 0.1	%	≤ 0.1	%
Suitability as reagent (for cyanide determination)	passes test		passes test	

Date of release (DD.MM.YYYY) 17.04.2020
Minimum shelf life (DD.MM.YYYY) 30.04.2025

Ioannis Chartomatsidis
Responsible laboratory manager quality control

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

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

(sodium dihydrogen phosphate, monohydrate)

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

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

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

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

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

Jamie Ethier
Vice President Global Quality

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

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

Certificate of Analysis

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

Product Code: **LC13545**

Manufacture Date: August 01, 2024

Lot Number: **44080060**

Expiration Date: January 30, 2025

Test	Specification	Result
Appearance (clarity)	clear solution	clear solution
Appearance (color)	colorless	colorless
Concentration (CN)	0.990 - 1.010mg/mL	1.008mg/mL
Concentration (CN)	990 - 1,010ppm	1,008ppm
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 standards.*

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

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

Michael Monteleone

Michael Monteleone
Chemistry Supervisor - Quality Control

ISO9001:2015 Registration #0306-01

W3139 Received on 9/9/24 by IZ

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

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

RICCA CHEMICAL COMPANY®
W3154 Rec. on 12/2/24 by IZ

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

Certificate of Analysis

Cyanide Standard, 1000 ppm CN^-

Lot Number: 1411J58 **Product Number:** 2543

Manufacture Date: NOV 22, 2024
Expiration Date: MAY 2025

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

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

Test	Specification	Result
Appearance	Colorless liquid	Passed
Cyanide (CN^-)	995-1005 ppm	1000 ppm

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

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

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

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

Luis Briceno (11/22/2024)
Operations Supervisor

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. P5297
QUOTE NO.
COC Number 2041556

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: ELEKANT JEWELERS
ADDRESS: 31 W. 47th ST. # 301
CITY NYC STATE: NY ZIP: 10036
ATTENTION: SANDY
PHONE: 212 8694951 FAX: 212 9448769

CLIENT PROJECT INFORMATION

PROJECT NAME: SEPT '23
PROJECT NO.: LOCATION:
PROJECT MANAGER: SANDY
e-mail: ELEKANT@ELEGANTON47TH.COM
PHONE: 212 8694951 FAX:

CLIENT BILLING INFORMATION

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

DATA TURNAROUND INFORMATION

FAX (RUSH) 10 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 2 (Results + QC)
- ☐ Level 3 (Results + QC + Raw Data)
- ☐ EDD FORMAT
- ☐ Level 4 (QC + Full Raw Data)
- ☐ NJ Reduced ☐ US EPA CLP
- ☐ NYS ASP A ☐ NYS ASP B
- ☐ Other

ANALYSIS

1. Cond.
2. Cu + Amenable Metals

PRESERVATIVES / **COMMENTS**

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

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1 (D)	2 (B)	3	4	5	6	7	8	9	COMMENTS
1. F1	SEPT '23	H2O		✓	12.18.24	11 AM		D									
2. F2	SEPT '23	H2O		✓	12.18.24	12 PM		D									
3. F3	SEPT '23	H2O		✓	12.18.24	1 PM		D									
4. F4	SEPT '23	H2O		✓	12.18.24	2 PM		D									
5. F5	SEPT '23	H2O		✓	12.18.24	11 AM		[illegible]	B								
6.																	
7.																	
8.																	
9.																	
10.																	

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

RELINQUISHED BY SAMPLER	DATE/TIME	RECEIVED BY
1. SANDY	12.18.24 5PM	1.
2.	12-19-24 9:44	2. [signature]
3. FEDEX	12-19-24 9:44	3. [signature]

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 16.4 °C
Comments: IR Coont 1

Page ____ of ____

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

Shipment Complete ☐ YES ☐ NO

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

Laboratory Composite Sample log

Chemtech Project number: P5297 Date: 12-19-24

Client Name: Elegant Jewelers Client Project Name : SEPT-23

Instructions: Composite Samples (4:1)

Sample Custodian:

Client Sample ID	Weigh /Volume used	New ID	Sample Description	Sample Composite time	Comments
F1 SEPT.'23	250mL	CN-1-4-Composite	Clear Water	11:50	Total weight/1000mL
F2	↓	↓	↓	↓	↓
F3	↓	↓	↓	↓	↓
F4	↓	↓	↓	↓	↓

QA Control #: A3041240

From: Elegant Jewelers <Elegant@eleganton47th.com>
Sent: Thursday, December 19, 2024 10:29 AM
Subject: RE: Cooler Temp. out of Range - Project: SEPT-23

Ok…….thats odd.
I put 5 cold packs in there.

From: Kiran Saleem <Kiran.Saleem@alliancetg.com>
Sent: Thursday, December 19, 2024 10:28 AM
To: elegantjewelers@verizon.net
Subject: Cooler Temp. out of Range - Project: SEPT-23

Hello Sandy,

I am reaching out to inform you that the samples have been received but the temp of the cooler is higher than 6.

We inform the client when the temperature is higher than range of 0-6.

Thanks.

Our office will be **CLOSED** on the following dates:

December 24th, 25th and January 1st for the Holidays

NOTE: Chemtech is now an Alliance Technical Group company. Please add AllianceTG.com to your safe senders list to ensure receipt of important emails.

Regards,

Kiran Saleem
Project Manager
Alliance Technical Group
Main: 908-789-8900
Direct: 908-728-3148
Address: 284 Sheffield St, Ste 1, Mountainside, NJ 07092
www.alliancetg.com

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