

DATA PACKAGE GENERAL CHEMISTRY

PROJECT NAME : RFP 916

**WESTON SOLUTIONS, INC.
1090 King Georges Post Road
Suite 201
Edison, NJ - 08837-3703
Phone No: 732-585-4410**

**ORDER ID : Q3178
ATTENTION : Smita Sumbaly**



Laboratory Certification ID # 20012



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Cover Page

Order ID : Q3178

Project ID : RFP 916

Client : Weston Solutions, Inc.

Lab Sample Number

Q3178-01
Q3178-02
Q3178-03

Client Sample Number

EME-TS14-01
EME-TS14-01MS
EME-TS14-01MSD

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

Signature : _____

Date: 9/29/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

CASE NARRATIVE

Weston Solutions, Inc.

Project Name: RFP 916

Project # N/A

Order ID # Q3178

Test Name: Cyanide

A. Number of Samples and Date of Receipt:

3 Solid samples were received on 09/23/2025.

B. Parameters:

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

C. Analytical Techniques:

The analysis of Cyanide was based on method 9012B.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Blank Spike met requirements for all compounds.

The Duplicate analysis met criteria for all compounds.

The Matrix Spike analysis met criteria for all compounds.

The Matrix Spike Duplicate analysis met criteria for all compounds.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

E. Additional Comments:

Calculation for CN Soil Sample:

Conversion of Results from $\mu\text{g/L}$ or ppb to mg/kg :

$$\text{Concentration (mg/kg)} = C \times \frac{V_f}{W \times S} \times \text{DF} / 1000$$

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_____

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

GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY

ORDER ID: Q3178

MATRIX: Solid

METHOD: 9012B

	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 compounds.			
3. Sample Duplicate Analysis Met QC Criteria			✓
If not met, list those compounds and their recoveries which fall outside the acceptable range.			
4. Digestion Holding Time Met			✓
If not met, list number of days exceeded for each sample:			

ADDITIONAL COMMENTS:

QA REVIEW

Date

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q3178

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: SOHIL JODHANI

Date: 09/29/2025

LAB CHRONICLE

OrderID:	Q3178	OrderDate:	9/24/2025 10:59:00 AM
Client:	Weston Solutions, Inc.	Project:	RFP 916
Contact:	Smita Sumbaly	Location:	J33,VOA Lab

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q3178-01	EME-TS14-01	SOIL			09/23/25 12:45			09/23/25
			Cyanide	9012B		09/26/25	09/26/25 13:48	



SAMPLE DATA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/23/25 12:45
Project:	RFP 916	Date Received:	09/23/25
Client Sample ID:	EME-TS14-01	SDG No.:	Q3178
Lab Sample ID:	Q3178-01	Matrix:	SOIL
		% Solid:	71.4

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.46		1	0.058	0.35	mg/Kg	09/26/25 08:30	09/26/25 13:48	9012B

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: Weston Solutions, Inc.

SDG No.: Q3178

Project: RFP 916

RunNo.: LB137340

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 Cyanide	mg/L	0.095	0.099	96	90-110	09/26/2025
Sample ID: CCV1 Cyanide	mg/L	0.24	0.25	96	90-110	09/26/2025
Sample ID: CCV2 Cyanide	mg/L	0.24	0.25	96	90-110	09/26/2025
Sample ID: CCV3 Cyanide	mg/L	0.24	0.25	96	90-110	09/26/2025

Initial and Continuing Calibration Blank Summary

Client: Weston Solutions, Inc.

SDG No.: Q3178

Project: RFP 916

RunNo.: LB137340

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	09/26/2025
Sample ID: CCB1 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	09/26/2025
Sample ID: CCB2 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	09/26/2025
Sample ID: CCB3 Cyanide	mg/L	< 0.0025	0.0025	U	0.00096	0.005	09/26/2025

Preparation Blank Summary

Client: Weston Solutions, Inc.

SDG No.: Q3178

Project: RFP 916

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: Cyanide	PB169871BL mg/Kg	< 0.1250	0.1250	U	0.042	0.25	09/26/2025

Matrix Spike Summary

Client:	Weston Solutions, Inc.	SDG No.:	Q3178
Project:	RFP 916	Sample ID:	Q3178-01
Client ID:	EME-TS14-01MS	Percent Solids for Spike Sample:	71.4

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/Kg	75-125	3.10		0.46		2.7	1	98		09/26/2025

Matrix Spike Summary

Client:	Weston Solutions, Inc.	SDG No.:	Q3178
Project:	RFP 916	Sample ID:	Q3178-01
Client ID:	EME-TS14-01MSD	Percent Solids for Spike Sample:	71.4

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/Kg	75-125	3.20		0.46		2.7	1	101		09/26/2025

Duplicate Sample Summary

Client:	Weston Solutions, Inc.	SDG No.:	Q3178
Project:	RFP 916	Sample ID:	Q3178-01
Client ID:	EME-TS14-01DUP	Percent Solids for Spike Sample:	71.4

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	0.46		0.50		1	8		09/26/2025

Duplicate Sample Summary

Client:	Weston Solutions, Inc.	SDG No.:	Q3178
Project:	RFP 916	Sample ID:	Q3178-01
Client ID:	EME-TS14-01MSD	Percent Solids for Spike Sample:	71.4

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	3.10		3.20		1	3.2		09/26/2025

Laboratory Control Sample Summary

Client: Weston Solutions, Inc.

SDG No.: Q3178

Project: RFP 916

Run No.: LB137340

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB169871BS							
Cyanide	mg/Kg	5	4.80		96	1	85-115	09/26/2025



RAW DATA

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- 14

6137

Test results

Aquakem 7.2AQ1

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Alliance Technical Group
284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : RM

Instrument ID : Konelab

9/26/2025 14:44

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	94.834	0.0	0.084	
ICB1	0.406	0.0	0.001	
CCV1	237.834	0.0	0.211	
CCB1	0.472	0.0	0.001	
PB169871BL	0.301	0.0	0.001	
PB169871BS	96.042	0.0	0.086	
LOWPB169871	9.416	0.0	0.009	
HIGHPB169871	475.690	0.0	0.422	
Q3176-01	5.240	0.0	0.005	
Q3176-02	8.906	0.0	0.008	
Q3176-03	6.455	0.0	0.006	
Q3178-01	6.642	0.0	0.006	
Q3178-01DUP	7.166	0.0	0.007	
Q3178-02MS	46.449	0.0	0.042	
CCV2	236.566	0.0	0.210	
CCB2	0.205	0.0	0.001	
Q3178-03MSD	46.092	0.0	0.041	
Q3208-01	2.281	0.0	0.002	
Q3208-07	3.625	0.0	0.004	
CCV3	238.783	0.0	0.212	
CCB3	0.501	0.0	0.001	

94% (90-110)
95% (90-110)
09/26/2025
RM

09/26/25
RM

N 21
Mean 72.567
SD 124.1155
CV% 171.04

Aquakem v. 7.2AQ1

Results from time period:

Fri Sep 26 13:41:01 2025

Fri Sep 26 14:19:14 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	0.5068	µg/l	9/26/2025 10:05:36	
5.0PPBCN	A	Total CN	P	5.2542	µg/l	9/26/2025 10:05:37	
10PPBCN	A	Total CN	P	9.8363	µg/l	9/26/2025 10:05:38	
50PPBCN	A	Total CN	P	48.4484	µg/l	9/26/2025 10:05:39	
100PPBCN	A	Total CN	P	100.9535	µg/l	9/26/2025 10:05:40	
250PPBCN	A	Total CN	P	250.0712	µg/l	9/26/2025 10:05:41	
500PPBCN	A	Total CN	P	499.9296	µg/l	9/26/2025 10:05:42	
ICV1	S	Total CN	P	94.8344	µg/l	9/26/2025 13:41:02	
ICB1	S	Total CN	P	0.4057	µg/l	9/26/2025 13:41:03	
CCV1	S	Total CN	P	237.834	µg/l	9/26/2025 13:41:06	
CCB1	S	Total CN	P	0.4721	µg/l	9/26/2025 13:41:08	
PB169871BL	S	Total CN	P	0.301	µg/l	9/26/2025 13:41:10	
PB169871BS	S	Total CN	P	96.0425	µg/l	9/26/2025 13:41:11	
LOWPB169871	S	Total CN	P	9.4161	µg/l	9/26/2025 13:48:38	
HIGHPB169871	S	Total CN	P	475.6902	µg/l	9/26/2025 13:48:42	
Q3176-01	S	Total CN	P	5.2398	µg/l	9/26/2025 13:48:43	
Q3176-02	S	Total CN	P	8.9063	µg/l	9/26/2025 13:48:44	
Q3176-03	S	Total CN	P	6.455	µg/l	9/26/2025 13:48:45	
Q3178-01	S	Total CN	P	6.6422	µg/l	9/26/2025 13:48:46	
Q3178-01DUP	S	Total CN	P	7.1664	µg/l	9/26/2025 13:56:10	
Q3178-02MS	S	Total CN	P	46.449	µg/l	9/26/2025 13:56:15	
CCV2	S	Total CN	P	236.5659	µg/l	9/26/2025 13:56:17	
CCB2	S	Total CN	P	0.2047	µg/l	9/26/2025 14:03:18	
Q3178-03MSD	S	Total CN	P	46.0916	µg/l	9/26/2025 14:03:20	
Q3208-01	S	Total CN	P	2.281	µg/l	9/26/2025 14:03:21	
Q3208-07	S	Total CN	P	3.6245	µg/l	9/26/2025 14:03:22	
CCV3	S	Total CN	P	238.783	µg/l	9/26/2025 14:03:25	
CCB3	S	Total CN	P	0.501	µg/l	9/26/2025 14:03:27	

Calibration results

Aquakem 7.2AQ1

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Alliance Technical Group
284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : RM Instrument ID : Konelab

9/26/2025 10:07

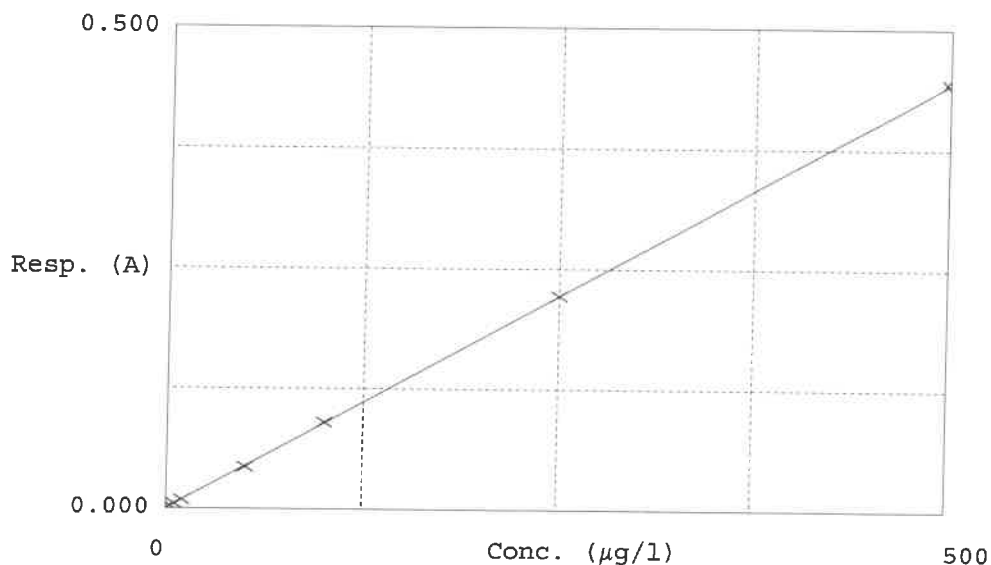
Test Total CN

Accepted 9/26/2025 10:07

Factor 1129
Bias 0

Coeff. of det. 0.999982

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	0.0PPBCN	0.001	0.5068	0.0000	-
2	5.0PPBCN	0.005	5.2542	5.0000	5.1
3	10PPBCN	0.009	9.8363	10.0000	-1.6
4	50PPBCN	0.043	48.4484	50.0000	-3.1
5	100PPBCN	0.090	100.9535	100.0000	1.0
6	250PPBCN	0.222	250.0712	250.0000	0.0
7	500PPBCN	0.443	499.9296	500.0000	0.0

09/26/2025
RM

SOP ID : M9012B-Total, Amenable and Reactive Cyanide-21

SDG No : N/A

Start Digest Date: 09/26/2025 Time : 08:30 Temp : 123 °C

Matrix : SOIL

End Digest Date: 09/26/2025 Time : 10:00 Temp : 127 °C

Pipette ID : WC

Balance ID : WC SC-7

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 : JP

pH Meter ID : N/A

Supervisor Signature:

Standard Name	MLS USED	STD REF. # FROM LOG
LCSS	1.0ML	WP113838
MS/MSD SPIKE SOL.	0.40ML	WP113837
PBS003	50.0ML	W3112
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
0.25N NaOH	50.0ML	WP113836
50% v/v H2SO4	5.0ML	WP112826
51% w/v MgCL2	2.0ML	WP112827
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
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	N/A	N/A
HIGHSTD	HIGHSTD	5.0ML	WP113837
LOWSTD	LOWSTD	0.1ML	WP113837

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
09/26/2025 10:15	JP / WC	RM (WC)
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
PB169871BL	PBS871	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A
PB169871BS	LCS871	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3176-01	EME-TS12-01	1.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3176-02	EME-TS13-01	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3176-03	EME-TS14-02	1.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3178-01	EME-TS14-01	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3178-01DUP	EME-TS14-01DUP	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3178-02	EME-TS14-01MS	1.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3178-03	EME-TS14-01MSD	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3208-01	SU-ESM-COMP-01	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q3208-07	SU-ESM-COMP-02	1.04	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : CN Q3208

WorkList ID : 192087

Department : Distillation

Date : 09-25-2025 13:25:00

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3208-01	SU-ESM-COMP-01	Solid	Cyanide	Cool 4 deg C	PSEG03	D31	09/25/2025	9012B
Q3208-07	SU-ESM-COMP-02	Solid	Cyanide	Cool 4 deg C	PSEG03	D31	09/25/2025	9012B

Date/Time

09/26/2025 07:40

Raw Sample Received by:

JP Cope

Raw Sample Relinquished by:

JP Cope

Date/Time

09/26/2025 07:00

Raw Sample Received by:

JP Cope

Raw Sample Relinquished by:

JP Cope

WORKLIST(Hardcopy Internal Chain)

WorkList Name : cn q3177 WorkList ID : 192053 Department : Distillation Date : 09-24-2025 13:42:29

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3176-01	EME-TS12-01	Solid	Cyanide	Cool 4 deg C	ROYF02	J43	09/23/2025	9012B
Q3176-02	EME-TS13-01	Solid	Cyanide	Cool 4 deg C	ROYF02	J43	09/23/2025	9012B
Q3176-03	EME-TS14-02	Solid	Cyanide	Cool 4 deg C	ROYF02	J43	09/23/2025	9012B
Q3178-01	EME-TS14-01	Solid	Cyanide	Cool 4 deg C	ROYF02	J33	09/23/2025	9012B
Q3178-02	EME-TS14-01MS	Solid	Cyanide	Cool 4 deg C	ROYF02	J33	09/23/2025	9012B
Q3178-03	EME-TS14-01MSD	Solid	Cyanide	Cool 4 deg C	ROYF02	J33	09/23/2025	9012B

Date/Time 09/26/2025 07.40
Raw Sample Received by: JH Wey
Raw Sample Relinquished by: JTC54

Date/Time 09/26/2025 07.00
Raw Sample Received by: JTC54
Raw Sample Relinquished by: JH Wey

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB137340

Review By	rubina	Review On	9/29/2025 10:40:42 AM
Supervise By	Iwona	Supervise On	9/29/2025 10:57:13 AM
SubDirectory	LB137340	Test	Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP114922,WP114923,WP114924,WP114926,WP114927,WP114928,WP114929		
ICV Standard	W3012		
CCV Standard	WP114923		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP113838		
Chk Standard	WP114923		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	09/26/25 10:05		rubina	OK
2	5.0PPBCN	5.0PPBCN	CAL2	09/26/25 10:05		rubina	OK
3	10PPBCN	10PPBCN	CAL3	09/26/25 10:05		rubina	OK
4	50PPBCN	50PPBCN	CAL4	09/26/25 10:05		rubina	OK
5	100PPBCN	100PPBCN	CAL5	09/26/25 10:05		rubina	OK
6	250PPBCN	250PPBCN	CAL6	09/26/25 10:05		rubina	OK
7	500PPBCN	500PPBCN	CAL7	09/26/25 10:05		rubina	OK
8	ICV1	ICV1	ICV	09/26/25 13:41		rubina	OK
9	ICB1	ICB1	ICB	09/26/25 13:41		rubina	OK
10	CCV1	CCV1	CCV	09/26/25 13:41		rubina	OK
11	CCB1	CCB1	CCB	09/26/25 13:41		rubina	OK
12	PB169871BL	PB169871BL	MB	09/26/25 13:41		rubina	OK
13	PB169871BS	PB169871BS	LCS	09/26/25 13:41		rubina	OK
14	LOWPB169871	LOWPB169871	SAM	09/26/25 13:48		rubina	OK
15	HIGHPB169871	HIGHPB169871	SAM	09/26/25 13:48		rubina	OK
16	Q3176-01	EME-TS12-01	SAM	09/26/25 13:48		rubina	OK
17	Q3176-02	EME-TS13-01	SAM	09/26/25 13:48		rubina	OK
18	Q3176-03	EME-TS14-02	SAM	09/26/25 13:48		rubina	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB137340

Review By	rubina	Review On	9/29/2025 10:40:42 AM
Supervise By	Iwona	Supervise On	9/29/2025 10:57:13 AM
SubDirectory	LB137340	Test	Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP114922,WP114923,WP114924,WP114926,WP114927,WP114928,WP114929		
ICV Standard	W3012		
CCV Standard	WP114923		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP113838		
Chk Standard	WP114923		

19	Q3178-01	EME-TS14-01	SAM	09/26/25 13:48		rubina	OK
20	Q3178-01DUP	EME-TS14-01DUP	DUP	09/26/25 13:56		rubina	OK
21	Q3178-02	EME-TS14-01MS	MS	09/26/25 13:56		rubina	OK
22	CCV2	CCV2	CCV	09/26/25 13:56		rubina	OK
23	CCB2	CCB2	CCB	09/26/25 14:03		rubina	OK
24	Q3178-03	EME-TS14-01MSD	MSD	09/26/25 14:03		rubina	OK
25	Q3208-01	SU-ESM-COMP-01	SAM	09/26/25 14:03		rubina	OK
26	Q3208-07	SU-ESM-COMP-02	SAM	09/26/25 14:03		rubina	OK
27	CCV3	CCV3	CCV	09/26/25 14:03		rubina	OK
28	CCB3	CCB3	CCB	09/26/25 14:03		rubina	OK

Prep Standard - Chemical Standard Summary

Order ID : Q3178
Test : Cyanide,Percent Solids

Prepbatch ID : PB169871,
Sequence ID/Qc Batch ID: LB137340,

Standard ID :
WP112826,WP112827,WP113836,WP113837,WP113838,WP114921,WP114922,WP114923,WP114924,WP114926,WP114927,WP114928,WP114929,

Chemical ID :
M6041,W3012,W3112,W3113,W3152,W3214,W3224,

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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>
1714	Sulfuric Acid, 50% (v/v)	WP112826	04/25/2025	10/25/2025	Rubina Mughal	None	None	Iwona Zarych
								04/25/2025

FROM 1000.00000ml of M6041 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml

<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)	WP112827	04/25/2025	10/25/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Iwona Zarych
								04/25/2025

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

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
11	Sodium hydroxide absorbing solution 0.25 N	WP113836	07/08/2025	12/31/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Iwona Zarych 07/08/2025
FROM 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	WP113837	07/08/2025	11/30/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 07/08/2025
FROM 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	WP113838	07/08/2025	12/24/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 07/08/2025
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	WP114921	09/26/2025	09/27/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 09/29/2025
FROM 0.25000ml of W3214 + 49.75000ml of WP113836 = Final Quantity: 50.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4	Calibration standard 500 ppb	WP114922	09/26/2025	09/27/2025	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 09/29/2025
FROM 45.00000ml of WP113836 + 5.00000ml of WP114921 = 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>
3761	Calibration-CCV CN Standard 250 ppb	WP114923	09/26/2025	09/27/2025	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych 09/29/2025
FROM 2.50000ml of WP114921 + 47.50000ml of WP113836 = Final Quantity: 50.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
6	Calibration Standard 100 ppb	WP114924	09/26/2025	09/27/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 09/29/2025
FROM 1.00000ml of WP114921 + 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	WP114926	09/26/2025	09/27/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 09/29/2025
FROM 0.50000ml of WP114921 + 49.50000ml of WP113836 = Final Quantity: 50.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
8	Calibration Standard 10 ppb	WP114927	09/26/2025	09/27/2025	Rubina Mughal	None	None	Iwona Zarych
FROM 1.00000ml of WP114922 + 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>
9	Calibration Standard 5 ppb	WP114928	09/26/2025	09/27/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych
FROM 0.50000ml of WP114922 + 49.50000ml of WP113836 = Final Quantity: 50.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
167	0 ppb CN calibration std	WP114929	09/26/2025	09/27/2025	Rubina Mughal	None	None	Iwona Zarych
FROM 50.00000ml of WP113836 = Final Quantity: 50.000 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 #
EPA	/ ICV-CN	ICV6-400	12/31/2025	01/08/2025 / lwona	02/20/2020 / lwona	W3012

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or
Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

W2160, W2161, W2162,
W2163, W2164 Receive by
AP on 9/2/2016

(A) SAMPLE DESCRIPTION

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) BREAKAGE OR MISSING ITEMS

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) ANALYSIS OF SAMPLES

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.



Instructions for QATS Reference Material: *Inorganic ICV Solutions*

- ICV1-1014** For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 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, use a 100-fold dilution by pipetting 1 mL of the ICV5 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) K₂Cr₂O₇ and 5% (v/v) nitric acid.
- ICV6-0400** For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 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 K₃Fe(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	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

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

avantor™



M 6041-4b
MS

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

Certificate of Analysis

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

>>> Continued on page 2 >>>

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

 **avantorsm**

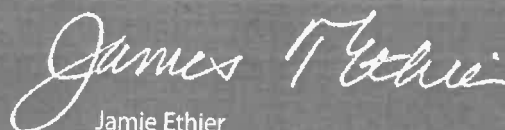


Material No.: 9673-33
Batch No.: 23D2462010

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

For Laboratory, Research, or Manufacturing Use

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



Jamie Ethier
Vice President Global Quality

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

Pellets

Spec Set: 0583ACS

Internal ID #: 710

Signature

Additional Information

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

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

Product meets analytical specifications of the grades listed.

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
Lot Number	002126-2019-201
Product	Magnesium chloride hexahydrate

Magnesium chloride•6H₂O

CAS Number	7791-18-6
Molecular Formula	MgCl ₂ •6H ₂ O

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

Certificate of Analysis

Catalog Number: 01237

Lot Number: 002126-2019-201

Remarks

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

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



Bala Kumar
Quality Control Manager

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Certificate of Analysis

Cyanide Standard, 1000 ppm CN⁻

Lot Number: 1505H73

Product Number: 2543

Manufacture Date: MAY 08, 2025

Expiration Date: NOV 2025

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution 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 ⁻)	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)

Certificate of Analysis

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

Product Code: **LC13545**

Manufacture Date: June 25, 2025

Lot Number: **45060288**

Expiration Date: December 24, 2025

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

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

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

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

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

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

Suffix	1	2	3/3S/36/36S	4/4C	5	6	7	8	9	20	44	200	246	486
Size	500mL 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
Chemistry Supervisor - Quality Control
2025070315:30:45ahoffman-0-0
Q3178-GENCHEM

ISO9001:2015 Registration #0306-01

PERCENT SOLID

Supervisor: Iwona
Analyst: JIGNESH
Date: 9/25/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:25
In Date: 09/24/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 104
Time OUT: 08:37
Out Date: 09/25/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID-OVEN

QC:LB137296

Lab ID	Client SampleID	Dish #	Dish Wt (g) (A)	Sample Wt (g)	Dish + Sample Wt (g) (B)	Dish+Dry Sample Wt (g) (C)	% Solid	Comments
Q3170-01	MOD-25-0271	1	1.00	1.00	2.00	2.00	100.0	oil sample
Q3170-02	MOD-25-0271	2	1.00	1.00	2.00	2.00	100.0	oil sample
Q3176-01	EME-TS12-01	3	1.15	10.61	11.76	8.16	66.1	
Q3176-02	EME-TS13-01	4	1.18	10.37	11.55	8.27	68.4	
Q3176-03	EME-TS14-02	5	1.13	10.35	11.48	8.37	70.0	
Q3178-01	EME-TS14-01	6	1.13	10.74	11.87	8.8	71.4	
Q3178-02	EME-TS14-01MS	7	1.13	10.74	11.87	8.8	71.4	
Q3178-03	EME-TS14-01MSD	8	1.13	10.74	11.87	8.8	71.4	
Q3183-01	WC-1	9	1.18	10.41	11.59	10.09	85.6	
Q3183-02	WC-1-EPH	10	1.19	10.43	11.62	10.19	86.3	
Q3183-03	WC-1-VOC	11	1.13	10.60	11.73	10.55	88.9	
Q3183-04	WC-4	12	1.19	10.56	11.75	10.6	89.1	
Q3183-05	WC-4-EPH	13	1.19	10.49	11.68	9.77	81.8	
Q3183-06	WC-4-VOC	14	1.18	10.63	11.81	10.42	86.9	
Q3183-07	WC-3	15	1.13	10.42	11.55	9.8	83.2	
Q3183-08	WC-3-EPH	16	1.13	10.49	11.62	9.79	82.6	
Q3183-09	WC-3-VOC	17	1.19	10.55	11.74	10.96	92.6	
Q3185-01	Y2404-0048-1-1	18	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-02	Y2404-0048-1-2	19	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-03	KMH392P-1-1	20	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-04	KMH392P-1-2	21	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-05	EFB430R-1-1	22	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-06	EFB430R-1-2	23	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-07	4125-A	24	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-08	4125-B	25	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-09	4125-C	26	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-10	4125-D	27	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-11	4125-E	28	1.00	1.00	2.00	2.00	100.0	PILC

PERCENT SOLID

Supervisor: Iwona
Analyst: JIGNESH
Date: 9/25/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:25
In Date: 09/24/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 104
Time OUT: 08:37
Out Date: 09/25/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID-OVEN

QC:LB137296

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
Q3185-12	4126-A	29	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-13	4126-B	30	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-14	4126-C	31	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-15	4126-D	32	1.00	1.00	2.00	2.00	100.0	PILC
Q3185-16	4126-E	33	1.00	1.00	2.00	2.00	100.0	PILC
Q3186-01	Y2404-0043-1-1	34	1.00	1.00	2.00	2.00	100.0	PILC
Q3186-02	Y2404-0043-1-2	35	1.00	1.00	2.00	2.00	100.0	PILC
Q3186-03	KMA695Y-1-1	36	1.00	1.00	2.00	2.00	100.0	PILC
Q3186-04	KMA695Y-1-2	37	1.00	1.00	2.00	2.00	100.0	PILC
Q3187-01	228	38	1.19	10.67	11.86	10.96	91.6	
Q3187-02	228-E2	39	1.14	10.49	11.63	10.32	87.5	
Q3188-01	4135	40	1.00	1.00	2.00	2.00	100.0	debris
Q3188-02	RB22120	41	1.18	10.32	11.5	10.88	94.0	
Q3188-03	RB22120	42	1.16	10.60	11.76	10.92	92.1	
Q3189-01	72-11989	43	1.15	10.84	11.99	11.33	93.9	
Q3189-02	72-11989-E2	44	1.11	10.67	11.78	11.44	96.8	
Q3191-01	459	45	1.00	1.00	2.00	2.00	100.0	oil sample
Q3192-01	RB104	46	1.15	10.91	12.06	11.49	94.8	
Q3192-02	RB105	47	1.13	10.80	11.93	11.26	93.8	

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

WORKLIST(Hardcopy Internal Chain)

137296

WorkList Name : %1-092425

WorkList ID : 192050

Department : Wet-Chemistry

Date : 09-24-2025 13:11:45

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3170-01	MOD-25-0271	Solid	Percent Solids	Cool 4 deg C	PSEG03	J11	09/23/2025	Chemtech -SO
Q3170-02	MOD-25-0271	Solid	Percent Solids	Cool 4 deg C	PSEG03	J11	09/23/2025	Chemtech -SO
Q3176-01	EME-TS12-01	Solid	Percent Solids	Cool 4 deg C	ROYF02	J43	09/23/2025	Chemtech -SO
Q3176-02	EME-TS13-01	Solid	Percent Solids	Cool 4 deg C	ROYF02	J43	09/23/2025	Chemtech -SO
Q3176-03	EME-TS14-02	Solid	Percent Solids	Cool 4 deg C	ROYF02	J43	09/23/2025	Chemtech -SO
Q3178-01	EME-TS14-01	Solid	Percent Solids	Cool 4 deg C	ROYF02	J33	09/23/2025	Chemtech -SO
Q3178-02	EME-TS14-01MS	Solid	Percent Solids	Cool 4 deg C	ROYF02	J33	09/23/2025	Chemtech -SO
Q3178-03	EME-TS14-01MSD	Solid	Percent Solids	Cool 4 deg C	ROYF02	J33	09/23/2025	Chemtech -SO
Q3183-01	WC-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	J32	09/24/2025	Chemtech -SO
Q3183-02	WC-1-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	J32	09/24/2025	Chemtech -SO
Q3183-03	WC-1-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	J32	09/24/2025	Chemtech -SO
Q3183-04	WC-4	Solid	Percent Solids	Cool 4 deg C	PSEG03	J32	09/24/2025	Chemtech -SO
Q3183-05	WC-4-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	J32	09/24/2025	Chemtech -SO
Q3183-06	WC-4-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	J32	09/24/2025	Chemtech -SO
Q3183-07	WC-3	Solid	Percent Solids	Cool 4 deg C	PSEG03	J32	09/24/2025	Chemtech -SO
Q3183-08	WC-3-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	J32	09/24/2025	Chemtech -SO
Q3183-09	WC-3-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	J32	09/24/2025	Chemtech -SO
Q3185-01	Y2404-0048-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-02	Y2404-0048-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-03	KMH392P-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-04	KMH392P-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO

Date/Time 09/24/25 15:25

Raw Sample Received by: SP awg

Raw Sample Relinquished by: ch

Date/Time

09/24/25

Raw Sample Received by:

SP awg

WORKLIST(Hardcopy Internal Chain)

V313296

WorkList Name : %1-092425

WorkList ID : 192050

Department : Wet-Chemistry

Date : 09-24-2025 13:11:45

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3185-05	EFB430R-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-06	EFB430R-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-07	4125-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-08	4125-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-09	4125-C	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-10	4125-D	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-11	4125-E	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-12	4126-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-13	4126-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-14	4126-C	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-15	4126-D	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3185-16	4126-E	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/24/2025	Chemtech -SO
Q3186-01	Y2404-0043-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	J42	09/24/2025	Chemtech -SO
Q3186-02	Y2404-0043-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	J42	09/24/2025	Chemtech -SO
Q3186-03	KMA695Y-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	J42	09/24/2025	Chemtech -SO
Q3186-04	KMA695Y-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	J42	09/24/2025	Chemtech -SO
Q3187-01	228	Solid	Percent Solids	Cool 4 deg C	PSEG03	J11	09/24/2025	Chemtech -SO
Q3187-02	228-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	J11	09/24/2025	Chemtech -SO
Q3188-01	4135	Solid	Percent Solids	Cool 4 deg C	PSEG03	J12	09/24/2025	Chemtech -SO
Q3188-02	RB22120	Solid	Percent Solids	Cool 4 deg C	PSEG03	J12	09/24/2025	Chemtech -SO
Q3188-03	RB22120	Solid	Percent Solids	Cool 4 deg C	PSEG03	J12	09/24/2025	Chemtech -SO

Date/Time 09/24/25 15125

Raw Sample Received by: SPWY

Raw Sample Relinquished by: CFS

Date/Time 09/24/25

Raw Sample Received by: CFS

Raw Sample Relinquished by: CFS

WORKLIST(Hardcopy Internal Chain)

✓ 137296

WorkList Name : %1-092425

WorkList ID : 192050

Department : Wet-Chemistry

Date : 09-24-2025 13:11:45

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3189-01	72-11989	Solid	Percent Solids	Cool 4 deg C	PSEG03		09/24/2025	Chemtech -SO
Q3189-02	72-11989-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	I63	09/24/2025	Chemtech -SO
Q3191-01	459	Solid	Percent Solids	Cool 4 deg C	PSEG03	J41	09/25/2025	Chemtech -SO
Q3192-01	RB104	Solid	Percent Solids	Cool 4 deg C	GENV01	J13	09/24/2025	Chemtech -SO
Q3192-02	RB105	Solid	Percent Solids	Cool 4 deg C	GENV01	J13	09/24/2025	Chemtech -SO

Date/Time

09/24/25 15:23

Raw Sample Received by:

SB WVC

Raw Sample Relinquished by:

CD SM

Date/Time

09/24/25

Raw Sample Received by:

CD SM

Raw Sample Relinquished by:

SB WVC



SHIPPING DOCUMENTS

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

USEPA

DateShipped: 9/23/2025

CarrierName: Hand-Delivered

AirbillNo:

CHAIN OF CUSTODY RECORD

Case #:

Contact Name: Leticia Campiglia

Contact Phone: 732-570-4993

No: 2-092325-0004-0049-02

Cooler #: 2 of 2

Lab: Alliance Technical Group LLC (non-CLP)

Lab Phone: 908-789-8900

[illegible]

Special Instructions: RFP # 916. Please email results to leticia.campiglia@westonsolutions.com, smita.sumbaly@westonsolutions.com, ronan.clynch@westonsolutions.com and michael.lang@westonsolutions.com. 7 day preliminary TAT.

SAMPLES TRANSFERRED FROM	
1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
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21	22
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81	82
83	84
85	86
87	88
89	90
91	92
93	94
95	96
97	98
99	100

CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All Samples	LE / START VI Weston	9/23/25 1700		9-23-25 1700	1.3°C IR Gun #1 custody seals intact Temp. Bill present

Laboratory Certification

Certified By	License No.
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255425
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	TX-C25-00189
Virginia	460312

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q3178	ROYF02	Order Date : 9/24/2025 10:59:00 AM	Project Mgr :
Client Name : Weston Solutions, Inc.		Project Name : RFP 916	Report Type : Level 4
Client Contact : Smita Sumbaly		Receive DateTime : 9/23/2025 5:00:00 PM	EDD Type : Equis Region2(MEDD)
Invoice Name : Weston Solutions, Inc.		Purchase Order :	Hard Copy Date :
Invoice Contact : Smita Sumbaly			Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q3178-01	EME-TS14-01	Solid	09/23/2025	12:45					
					VOC-TCLVOA-10		8260D	5 Bus. Days	
Q3178-02	EME-TS14-01MS	Solid	09/23/2025	12:45					
					VOC-TCLVOA-10		8260D	5 Bus. Days	
Q3178-03	EME-TS14-01MSD	Solid	09/23/2025	12:45					
					VOC-TCLVOA-10		8260D	5 Bus. Days	

Relinquished By :

Date / Time : 9/24/25 1150

Received By :

Date / Time : 09/24/25

Storage Area : VOA Refridgerator Room

11:58