

FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCN1

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-01  
% Solids: 78.8 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.39	J	10/28/2024	1042

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCN2

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-02  
% Solids: 79.8 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ):                      mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.61	U	10/28/2024	1050

NOTE: Hardness (total) is reported in mg/L

Comments:  

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EPA SAMPLE NO.

MBHCN3

FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-03  
% Solids: 80 Date Received: 10/23/2024

Analytical Method: CNConcentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ):                      mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.60	U	10/28/2024	1050

NOTE: Hardness (total) is reported in  $\text{mg/L}$ Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCN4

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-04  
% Solids: 75.2 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.66	U	10/28/2024	1050

NOTE: Hardness (total) is reported in mg/L

Comments:  

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EPA SAMPLE NO.

MBHCN5

FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51698 MA No. : SDG No.: MBHCN1

Matrix: SOIL Lab Sample ID: P4500-05

% Solids: 79.9 Date Received: 10/23/2024

Analytical Method: CN

Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ):  $\text{mg/kg}$ 

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.60	U	10/28/2024	1050

NOTE: Hardness (total) is reported in  $\text{mg/L}$ 

Comments:

EPA SAMPLE NO.

MBHCN6

FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-06  
% Solids: 76.8 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ):                      mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.27	J	10/28/2024	1050

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCN7

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-07  
% Solids: 61.2 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.70	J	10/28/2024	1050

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCN8

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-08  
% Solids: 84.4 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ):                      mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.25	J	10/28/2024	1050

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCN9

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-09  
% Solids: 82.9 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ):                      mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.34	J	10/28/2024	1050

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCP0

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-10  
% Solids: 81.3 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.62		10/28/2024	1050

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCP1

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-13  
% Solids: 79.6 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ):                      mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.27	J	10/28/2024	1057

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCP2

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-14  
% Solids: 76.8 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.90		10/28/2024	1057

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCP3

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-15  
% Solids: 82.1 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ):                      mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.28	J	10/28/2024	1057

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCP4

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-16  
% Solids: 76.6 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.60	U	10/28/2024	1057

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCP5

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-17  
% Solids: 67.8 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.29	J	10/28/2024	1057

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCP6

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-18  
% Solids: 71.5 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ):                      mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.67	U	10/28/2024	1057

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCP7

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-19  
% Solids: 32.4 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ):                      mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	1.5	U	10/28/2024	1057

NOTE: Hardness (total) is reported in  $\text{mg/L}$ Comments:  

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EPA SAMPLE NO.

MBHCX2

FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011

Lab Code: ACE Case No.: 51698 MA No. : SDG No.: MBHCN1

Matrix: SOIL Lab Sample ID: P4500-20

% Solids: 87.2 Date Received: 10/23/2024

Analytical Method: CN

Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ):  $\text{mg/kg}$ 

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.25	J	10/28/2024	1057

NOTE: Hardness (total) is reported in  $\text{mg/L}$ 

Comments:

FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCX3

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-21  
% Solids: 81.8 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ):                      mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.19	J	10/28/2024	1057

NOTE: Hardness (total) is reported in mg/L

Comments:  

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FORM 1 - IN  
INORGANIC ANALYSIS DATA SHEET

MBHCZ6

Lab Name: Alliance Technical Group, LLC Contract: 68HERH20D0011  
Lab Code: ACE Case No.: 51698 MA No. :                      SDG No.: MBHCN1  
Matrix: SOIL Lab Sample ID: P4500-22  
% Solids: 84.8 Date Received: 10/23/2024  
Analytical Method: CN  
Concentration Units ( $\mu\text{g/L}$ ,  $\text{mg/L}$ ,  $\text{mg/kg}$  dry weight,  $\mu\text{g}$ , or  $\mu\text{g/cm}^2$ ): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	0.34	J	10/28/2024	1057

NOTE: Hardness (total) is reported in mg/L

Comments:  

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LB13

Test results

Aquakem 7.2AQ1

Page: 1

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

Reviewed by : NF Instrument ID : Konelab

10/28/2024 11:56

Test: CNEPA-NEW

Sample Id	Result	Dil. 1 +	Response	Errors
ICV001 ICV001	96.456	0.0	0.087	
ICB001 ICB001	0.496	0.0	0.001	
CCV001 CCV001	241.844	0.0	0.217	
CCB001 CCB001	0.377	0.0	0.001	
PB1644134 PBS413	0.736	0.0	0.001	
P4500-01 MBHCN1	6.363	0.0	0.006	
P4500-02 MBHCN2	0.616	0.0	0.001	
P4500-03 MBHCN3	2.574	0.0	0.002	
P4500-04 MBHCN4	1.740	0.0	0.002	
P4500-05 MBHCN5	0.917	0.0	0.001	
P4500-06 MBHCN6	4.223	0.0	0.004	
P4500-07 MBHCN7	9.109	0.0	0.008	
P4500-08 MBHCN8	4.265	0.0	0.004	
P4500-09 MBHCN9	5.973	0.0	0.006	
P4500-10 MBHCP0	10.329	0.0	0.009	
P4500-11 MBHCP0D	10.208	0.0	0.009	
P4500-12 MBHCP0S	94.356	0.0	0.085	
P4500-13 MBHCP1	4.391	0.0	0.004	
P4500-14 MBHCP2	13.990	0.0	0.013	
P4500-15 MBHCP3	4.724	0.0	0.004	
P4500-16 MBHCP4	1.633	0.0	0.002	
P4500-17 MBHCP5	4.083	0.0	0.004	
P4500-18 MBHCP6	1.072	0.0	0.001	
P4500-19 MBHCP7	0.870	0.0	0.001	
P4500-20 MBHCX2	4.422	0.0	0.004	
P4500-21 MBHCX3	3.323	0.0	0.003	
P4500-22 MBHCZ6	5.910	0.0	0.005	
CCV002 CCV002	239.611	0.0	0.215	
CCB002 CCB002	0.830	0.0	0.001	
PB1644144 PBS414	0.645	0.0	0.001	
P4501-01 MBHCS8	1.440	0.0	0.001	
P4501-02 MBHCS9	8.716	0.0	0.008	
P4501-03 MBHCT0	5.269	0.0	0.005	
P4501-04 MBHCT1	7.520	0.0	0.007	
P4501-05 MBHCT2	6.030	0.0	0.006	
P4501-06 MBHCT3	2.271	0.0	0.002	
P4501-07 MBHCT4	2.629	0.0	0.003	
P4501-08 MBHCT5	10.297	0.0	0.009	
P4501-09 MBHCT6	0.686	0.0	0.001	
P4501-10 MBHCT7	1.709	0.0	0.002	
P4501-11 MBHCT8	6.938	0.0	0.006	
P4501-12 MBHCT9	6.448	0.0	0.006	
P4501-13 MBHCW0	1.256	0.0	0.001	
P4501-14 MBHCW0D	1.235	0.0	0.001	
P4501-15 MBHCW0S	96.335	0.0	0.086	
P4501-16 MBHCW1	2.494	0.0	0.002	
P4501-17 MBHCW2	1.812	0.0	0.002	
P4501-18 MBHCW3	3.710	0.0	0.003	
P4501-19 MBHCW4	2.468	0.0	0.002	
P4501-20 MBHCW5	3.397	0.0	0.003	
P4501-21 MBHCW6	8.295	0.0	0.008	
P4501-22 MBHCW7	1.633	0.0	0.002	
CCV003 CCV003	244.963	0.0	0.219	
CCB003 CCB003	1.189	0.0	0.001	

NF

10-28-2024

NF

10-28-2024

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Test results

Aquakem 7.2AQ1

Page: 2

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

Reviewed by : NF Instrument ID : Konelab

10/28/2024 11:56

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Test: CNEPA-NEW

Sample Id	Result	Dil. 1 +	Response	Ø <sub>1</sub> „
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N	54
Mean	22.312
SD	57.9174
CV%	259.58

Aquakem v. 7.2AQ1

Results from time period:

Mon Oct 28 09:49:40 2024

Mon Oct 28 11:47:07 2024

Sample Id	Sam/Ctr/c/	Test short r	Test type	Result	Result unit	Result date and time
S0.0	A	CNEPA-NE <sup>1</sup> P		0.2612	µg/l	10/28/2024 9:49:40
S5.0	A	CNEPA-NE <sup>1</sup> P		4.5226	µg/l	10/28/2024 9:49:41
S10.0	A	CNEPA-NE <sup>1</sup> P		10.1803	µg/l	10/28/2024 9:49:42
S100.0	A	CNEPA-NE <sup>1</sup> P		99.4744	µg/l	10/28/2024 9:49:43
S250.0	A	CNEPA-NE <sup>1</sup> P		250.9106	µg/l	10/28/2024 9:49:44
S500.0	A	CNEPA-NE <sup>1</sup> P		499.651	µg/l	10/28/2024 9:49:45
ICV001 ICV001	S	CNEPA-NE <sup>1</sup> P		96.4557	µg/l	10/28/2024 10:42:29
ICB001 ICB001	S	CNEPA-NE <sup>1</sup> P		0.4962	µg/l	10/28/2024 10:42:30
CCV001 CCV001	S	CNEPA-NE <sup>1</sup> P		241.8439	µg/l	10/28/2024 10:42:33
CCB001 CCB001	S	CNEPA-NE <sup>1</sup> P		0.3773	µg/l	10/28/2024 10:42:35
PB164413 PBS413	S	CNEPA-NE <sup>1</sup> P		0.7358	µg/l	10/28/2024 10:42:36
P4500-01 MBHCN1	S	CNEPA-NE <sup>1</sup> P		6.3628	µg/l	10/28/2024 10:42:38
P4500-02 MBHCN2	S	CNEPA-NE <sup>1</sup> P		0.6156	µg/l	10/28/2024 10:50:03
P4500-03 MBHCN3	S	CNEPA-NE <sup>1</sup> P		2.5737	µg/l	10/28/2024 10:50:04
P4500-04 MBHCN4	S	CNEPA-NE <sup>1</sup> P		1.74	µg/l	10/28/2024 10:50:05
P4500-05 MBHCN5	S	CNEPA-NE <sup>1</sup> P		0.9169	µg/l	10/28/2024 10:50:06
P4500-06 MBHCN6	S	CNEPA-NE <sup>1</sup> P		4.2232	µg/l	10/28/2024 10:50:07
P4500-07 MBHCN7	S	CNEPA-NE <sup>1</sup> P		9.1086	µg/l	10/28/2024 10:50:08
P4500-08 MBHCN8	S	CNEPA-NE <sup>1</sup> P		4.2653	µg/l	10/28/2024 10:50:09
P4500-09 MBHCN9	S	CNEPA-NE <sup>1</sup> P		5.9733	µg/l	10/28/2024 10:50:10
P4500-10 MBHCP0	S	CNEPA-NE <sup>1</sup> P		10.3289	µg/l	10/28/2024 10:50:11
P4500-11 MBHCP0D	S	CNEPA-NE <sup>1</sup> P		10.2078	µg/l	10/28/2024 10:50:12
P4500-12 MBHCP0S	S	CNEPA-NE <sup>1</sup> P		94.3562	µg/l	10/28/2024 10:57:38
P4500-13 MBHCP1	S	CNEPA-NE <sup>1</sup> P		4.3908	µg/l	10/28/2024 10:57:39
P4500-14 MBHCP2	S	CNEPA-NE <sup>1</sup> P		13.9897	µg/l	10/28/2024 10:57:40
P4500-15 MBHCP3	S	CNEPA-NE <sup>1</sup> P		4.7239	µg/l	10/28/2024 10:57:41
P4500-16 MBHCP4	S	CNEPA-NE <sup>1</sup> P		1.6333	µg/l	10/28/2024 10:57:42
P4500-17 MBHCP5	S	CNEPA-NE <sup>1</sup> P		4.0829	µg/l	10/28/2024 10:57:43
P4500-18 MBHCP6	S	CNEPA-NE <sup>1</sup> P		1.0719	µg/l	10/28/2024 10:57:44
P4500-19 MBHCP7	S	CNEPA-NE <sup>1</sup> P		0.8699	µg/l	10/28/2024 10:57:45
P4500-20 MBHCX2	S	CNEPA-NE <sup>1</sup> P		4.4225	µg/l	10/28/2024 10:57:46
P4500-21 MBHCX3	S	CNEPA-NE <sup>1</sup> P		3.3232	µg/l	10/28/2024 10:57:47
P4500-22 MBHCZ6	S	CNEPA-NE <sup>1</sup> P		5.9097	µg/l	10/28/2024 10:57:48
CCV002 CCV002	S	CNEPA-NE <sup>1</sup> P		239.6111	µg/l	10/28/2024 11:05:15
CCB002 CCB002	S	CNEPA-NE <sup>1</sup> P		0.83	µg/l	10/28/2024 11:05:16
PB164414 PBS414	S	CNEPA-NE <sup>1</sup> P		0.645	µg/l	10/28/2024 11:05:17
P4501-01 MBHCS8	S	CNEPA-NE <sup>1</sup> P		1.4402	µg/l	10/28/2024 11:05:18
P4501-02 MBHCS9	S	CNEPA-NE <sup>1</sup> P		8.7161	µg/l	10/28/2024 11:05:19
P4501-03 MBHCT0	S	CNEPA-NE <sup>1</sup> P		5.2692	µg/l	10/28/2024 11:05:20

P4501-04 MBHCT1	S	CNEPA-NE\ P	7.5202 µg/l	10/28/2024 11:05:21
P4501-05 MBHCT2	S	CNEPA-NE\ P	6.0295 µg/l	10/28/2024 11:05:22
P4501-06 MBHCT3	S	CNEPA-NE\ P	2.2712 µg/l	10/28/2024 11:05:23
P4501-07 MBHCT4	S	CNEPA-NE\ P	2.6291 µg/l	10/28/2024 11:12:45
P4501-08 MBHCT5	S	CNEPA-NE\ P	10.2968 µg/l	10/28/2024 11:12:46
P4501-09 MBHCT6	S	CNEPA-NE\ P	0.686 µg/l	10/28/2024 11:12:47
P4501-10 MBHCT7	S	CNEPA-NE\ P	1.7089 µg/l	10/28/2024 11:12:48
P4501-11 MBHCT8	S	CNEPA-NE\ P	6.9383 µg/l	10/28/2024 11:12:49
P4501-12 MBHCT9	S	CNEPA-NE\ P	6.4479 µg/l	10/28/2024 11:12:50
P4501-13 MBHCW0	S	CNEPA-NE\ P	1.2562 µg/l	10/28/2024 11:12:51
P4501-14 MBHCW0D	S	CNEPA-NE\ P	1.2354 µg/l	10/28/2024 11:12:52
P4501-15 MBHCW0S	S	CNEPA-NE\ P	96.3345 µg/l	10/28/2024 11:12:53
P4501-16 MBHCW1	S	CNEPA-NE\ P	2.4941 µg/l	10/28/2024 11:12:55
P4501-17 MBHCW2	S	CNEPA-NE\ P	1.8122 µg/l	10/28/2024 11:19:52
P4501-18 MBHCW3	S	CNEPA-NE\ P	3.7096 µg/l	10/28/2024 11:19:53
P4501-19 MBHCW4	S	CNEPA-NE\ P	2.4678 µg/l	10/28/2024 11:19:54
P4501-20 MBHCW5	S	CNEPA-NE\ P	3.3969 µg/l	10/28/2024 11:19:55
P4501-21 MBHCW6	S	CNEPA-NE\ P	8.295 µg/l	10/28/2024 11:19:56
P4501-22 MBHCW7	S	CNEPA-NE\ P	1.6326 µg/l	10/28/2024 11:19:57
CCV003 CCV003	S	CNEPA-NE\ P	244.9632 µg/l	10/28/2024 11:20:00
CCB003 CCB003	S	CNEPA-NE\ P	1.1893 µg/l	10/28/2024 11:20:01



Calibration results

Aquakem 7.2AQ1

Page: 1

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

Reviewed by : NF Instrument ID : Konelab

10/28/2024 9:51

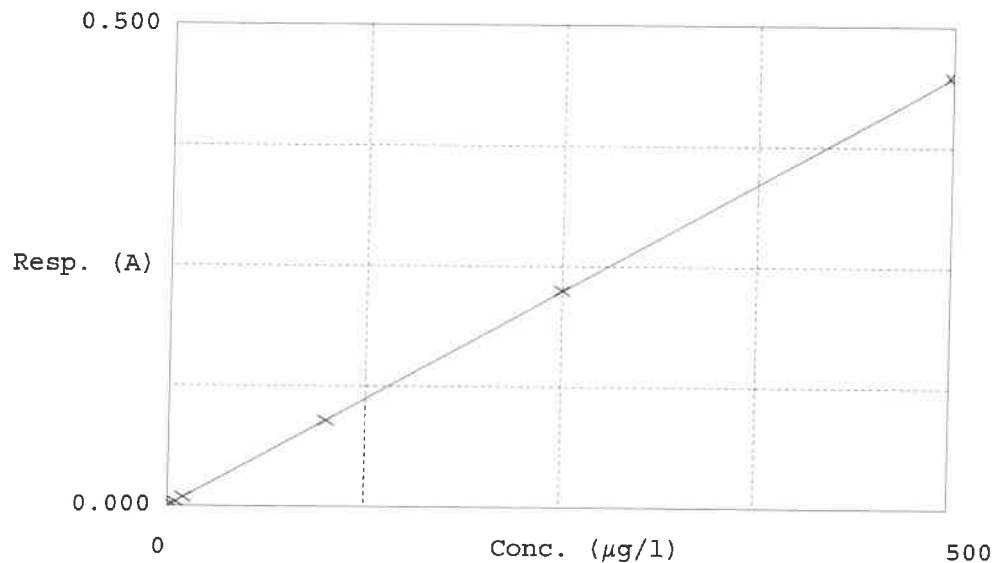
Test CNEPA-NEW

Accepted 10/28/2024 9:51

~~Factor~~ slope ~~1117~~ 0.000895 NF  
~~Bias~~ Intercept 0  
10.29.2024

Coeff. of det. 0.999992

Errors



Calibrator	Response	Calc. con.	Conc.	Re Errors	
1 00.00.0PPBCN	0.000	0.2612	0.0000		
2 50.05.0PPBCN	0.004	4.5226	5.0000	-9.5	
3 10.010PPBCN	0.009	10.1803	10.0000	1.8	
4 100.0100PPBCN	0.089	99.4744	100.0000	-0.5	NF
5 250.0250PPBCN	0.225	250.9106	250.0000	0.4	
6 500.0500PPBCN	0.447	499.6510	500.0000	-0.1	10.28.2024

## Prep Standard - Chemical Standard Summary

**Order ID :** P4500

**Test :** Cyanide

**Prepbatch ID :** PB164413,

**Sequence ID/Qc Batch ID:** LB133219,

**Standard ID :**

WP108640,WP108688,WP109089,WP110035,WP110103,WP110390,WP110391,WP110417,WP110418,WP110419,W  
P110420,WP110421,WP110422,WP110423,WP110424,WP110425,WP110456,

**Chemical ID :**

E3657,M5673,M5951,W2668,W2882,W3001,W3011,W3019,W3112,W3113,W3139,W3142,



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
11	Sodium hydroxide absorbing solution 0.25 N	<a href="#">WP108640</a>	07/05/2024	01/05/2025	Rubina Mughal	WETCHEM_S CALE_4 (WC SC-4)	None	Iwona Zarych  07/08/2024
<b><u>FROM</u></b> 21.00000L of W3112 + 210.00000gram of E3657 = 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>
1581	Sodium hydroxide solution, 1.25N	<a href="#">WP108688</a>	07/11/2024	01/11/2025	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych  07/11/2024
<u>FROM</u>	50.00000gram of W3113 + 950.00000ml of W3112 = Final Quantity: 1000.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2816	CN-EPA Pyridine-Burbituric Acid solution	<a href="#">WP109089</a>	08/07/2024	12/27/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCS-5)	None	Iwona Zarych 08/07/2024
<b><u>FROM</u></b> 15.00000gram of W2882 + 15.00000ml of M5951 + 75.00000ml of W3019 + 895.00000ml of W3112 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3850	Cyanide MS-MSD spiking solution, 5PPM	<a href="#">WP110035</a>	10/03/2024	11/30/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 10/04/2024
<u>FROM</u>	1.00000ml of W3142 + 199.00000ml of WP108640 = 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>
539	CN BUFFER	<a href="#">WP110103</a>	10/08/2024	04/08/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych  10/08/2024
<b><u>FROM</u></b> 138.00000gram of W2668 + 862.00000ml of W3112 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3214	Magnesium Chloride For Cyanide 2.5M(51%W/V)	<a href="#">WP110390</a>	10/24/2024	04/24/2025	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych  10/24/2024
<b><u>FROM</u></b> 500.00000ml of W3112 + 510.00000gram of W3001 = 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>
1714	Sulfuric Acid, 50% (v/v)	<a href="#">WP110391</a>	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

<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>
1585	Cyanide Intermediate standard solution, 10PPM	<a href="#">WP110417</a>	10/25/2024	10/26/2024	Iwona Zarych	None	WETCHEM_FIPETTE_3	Jignesh Parikh
							(WC)	11/04/2024

**FROM** 1.00000ml of W3142 + 79.00000ml of W3112 + 20.00000ml of WP108688 = Final Quantity: 100.000 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>
1586	Cyanide Cal Std, 500 PPB	<a href="#">WP110418</a>	10/25/2024	10/26/2024	Iwona Zarych	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh  11/04/2024

**FROM** 5.00000ml of WP110417 + 95.00000ml of WP108640 = Final Quantity: 0.100 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>
1587	Cyanide Cal Std, 250 PPB	<a href="#">WP110419</a>	10/25/2024	10/26/2024	Iwona Zarych	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh  11/04/2024

**FROM** 2.50000ml of WP110417 + 97.50000ml of WP108640 = Final Quantity: 0.100 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>
1588	Cyanide Cal Std, 100 PPB	<a href="#">WP110420</a>	10/25/2024	10/26/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 11/04/2024
<b><u>FROM</u></b> 1.00000ml of WP110417 + 99.00000ml of WP108640 = Final Quantity: 0.100 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>
1589	Cyanide Cal Std, 10 PPB	<a href="#">WP110421</a>	10/25/2024	10/26/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh  11/04/2024
<b><u>FROM</u></b> 4.00000ml of WP110419 + 96.00000ml of WP108640 = Final Quantity: 0.100 L								



## 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>
1590	Cyanide Cal Std, 5 PPB	<a href="#">WP110422</a>	10/25/2024	10/26/2024	Iwona Zarych	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh  11/04/2024

**FROM** 2.00000ml of WP110419 + 98.00000ml of WP108640 = Final Quantity: 0.100 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>
1591	Cyanide blank std, 0 PPB	<a href="#">WP110423</a>	10/25/2024	10/26/2024	Iwona Zarych	None	None	Jignesh Parikh  11/04/2024

**FROM** 100.00000ml of WP108640 = Final Quantity: 0.100 L

## 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>
1763	Cyanide ICV Std	<a href="#">WP110424</a>	10/25/2024	10/26/2024	Iwona Zarych	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh  11/04/2024

**FROM** 0.50000ml of W3011 + 49.50000ml of WP108640 = 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>
1592	Cyanide CCV Std, 250 PPB	<a href="#">WP110425</a>	10/25/2024	10/26/2024	Iwona Zarych	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh  11/04/2024

**FROM** 2.50000ml of WP110417 + 97.50000ml of WP108640 = Final Quantity: 0.100 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>
1582	Chloramine T solution, 0.014M	<a href="#">WP110456</a>	10/28/2024	10/29/2024	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCS-5)	None	Iwona Zarych 10/30/2024
<u>FROM</u>	0.08000gram of W3139 + 20.00000ml of W3112 = Final Quantity: 20.000 ml							

## CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
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)	22G2862015	12/27/2024	07/04/2024 / Jaswal	06/23/2024 / Al-Terek	M5951

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EM-BX0035-3 / Barbituric Acid, 100 gms	1.00132.0100	04/30/2025	12/07/2021 / lwona	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 / Magnesium Chloride Hexahydrate ACS 10KG	002251-03319	06/06/2027	01/23/2023 / lwona	06/06/2022 / lwona	W3001

## 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 / lwona	02/20/2020 / lwona	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 / lwona	04/03/2023 / lwona	W3019

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.	JTE494-6 / CHLORAMINE-T BAKER 250GM	10239484	09/09/2029	09/09/2024 / lwona	09/09/2024 / lwona	W3139

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	1405J81	11/30/2024	09/25/2024 / lwona	09/25/2024 / lwona	W3142

W2918  
W3001  
rec. 06/06/22  
exp. 06/06/27

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## Chem-Impex International, Inc.

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

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

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### Certificate of Analysis

<b>Catalogue Number</b>	01237
<b>Product</b>	<b>Magnesium chloride hexahydrate</b>
<b>Lot Number</b>	002251-03319 Magnesium chloride•6H <sub>2</sub> O
<b>CAS Number</b>	7791-18-6
<b>Molecular Formula</b>	MgCl <sub>2</sub> •6H <sub>2</sub> O
<b>Molecular Weight</b>	203.3

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<b>Appearance</b>	Colorless crystals, very deliquescent
<b>Heavy Metals</b>	< 5 ppm
<b>Anion</b>	Nitrate : < 0.001% Phosphate : < 5 ppm Sulfate : < 0.002%
<b>Cation</b>	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%
<b>Insoluble material</b>	0.0025%
<b>Assay by titration</b>	100.29%
<b>Grade</b>	ACS reagent
<b>Storage</b>	Store at RT
<b>Country of Origin</b>	India

## ***Certificate of Analysis***

**Catalog Number: 01237**

**Lot Number: 002251-03319**

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**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**

W3019  
rec 4/3/23

3050 Spruce Street, Saint Louis, MO 63103, USA

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

## Certificate of Analysis

Product Name:

Pyridine - anhydrous, 99.8%

Product Number:

270970

Batch Number:

SHBQ2113

Brand:

SIAL

CAS Number:

110-86-1

MDL Number:

MFCD00011732

Formula:

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

Formula Weight:


79.10 g/mol

Quality Release Date:

15 DEC 2022



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

  
Larry Coers, Director  
Quality Control  
Sheboygan Falls, WI US

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







# Certificate of Analysis

## Sodium Hydroxide (Pellets)

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

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

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

Storage: Room Temperature

Pellets

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Calcium	$\leq 0.005 \%$	$< 0.005 \%$	PASS
Chloride	$\leq 0.005 \%$	0.002 %	PASS
Heavy Metals	$\leq 0.002 \%$	$< 0.002 \%$	PASS
Iron	$\leq 0.001 \%$	$< 0.001 \%$	PASS
Magnesium	$\leq 0.002 \%$	$< 0.002 \%$	PASS
Mercury	$\leq 0.1 \text{ ppm}$	$< 0.1 \text{ ppm}$	PASS
Nickel	$\leq 0.001 \%$	$< 0.001 \%$	PASS
Nitrogen Compounds	$\leq 0.001 \%$	$< 0.001 \%$	PASS
Phosphate	$\leq 0.001 \%$	$< 0.001 \%$	PASS
Potassium	$\leq 0.02 \%$	$< 0.02 \%$	PASS
Purity	$\geq 97.0 \%$	99.2 %	PASS
Sodium Carbonate	$\leq 1.0 \%$	0.5 %	PASS
Sulfate	$\leq 0.003 \%$	$< 0.003 \%$	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.





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) K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> 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 K<sub>3</sub>Fe(CN)<sub>6</sub>, 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 <sup>-</sup>	99

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

 **avantor**™



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

## Certificate of Analysis

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

>>> Continued on page 2 >>>

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



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

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

For Laboratory, Research, or Manufacturing Use

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

  
Jamie Ethier  
Vice President Global Quality

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



MS947 MS948 MS949  
MS950 MS951 MS952

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

## Certificate of Analysis

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

>>> Continued on page 2 >>>

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

 **avantor™**



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

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

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%

BAKER INSTRA-ANALYZED® Reagent

For Trace Metal Analysis



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

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

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

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

A handwritten signature in cursive script that reads 'Jamie Ethier'.

Jamie Ethier  
Vice President Global Quality





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

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

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

  
Jamie Ethier  
Vice President Global Quality

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



# Certificate of Analysis



## Sodium Hydroxide (Pellets)

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

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

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

Storage: Room Temperature

Pellets

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

Internal ID #: 710

### Signature

We certify that this batch conforms to the specifications listed.

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

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

### Additional Information

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

Product meets analytical specifications of the grades listed.



## Sodium Hydroxide (Pellets)

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

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

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

Storage: Room Temperature

Pellets

Spec Set: 0583ACS

Internal ID #: 710

### Signature

We certify that this batch conforms to the specifications listed.

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

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

### Additional Information

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

Product meets analytical specifications of the grades listed.

W3139 Received on 9/9/24 by IZ

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

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

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

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

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

# Certificate of Analysis

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

**Lot Number:** 1405J81

**Product Number:** 2543

**Manufacture Date:** MAY 20, 2024

**Expiration Date:** NOV 2024

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

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

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

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

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

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



Heidi J Green (05/20/2024)  
Operations Manager

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

SOP ID : MSFAM01.1-Cyanide-2

SDG No : MBHCN1

Matrix : SOIL

Pipette ID : WC

Balance ID : WC SC-4

Hood ID : HOOD#1

Block ID : MC-1, MC-2

Weigh By : JP

Start Digest Date: 10/25/2024 Time : 08:00 Temp : 123 °C

End Digest Date: 10/25/2024 Time : 09:30 Temp : 127 °C

I batch 10/25/2024 10:00 124  
10/25/2024 11:30 128

Digestion tube ID : M5595

Block Thermometer ID : WC CYANIDE

Filter paper ID : N/A

Prep Technician Signature: Jn

pH Meter ID : N/A

Supervisor Signature: 12

Standard Name	MLS USED	STD REF. # FROM LOG
PBS003	50.0ML	W3112
MATRIX SPIKE SOLUTION	1.0ML	WP110035
N/A	N/A	N/A
N/A	N/A	N/A
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
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
S0	S0	50.0ML	WP110423 I batch
S5.0	S5.0	50.0ML	WP110422 "
S10.0	S10.0	50.0ML	WP110421 "
S100.0	S100.0	50.0ML	WP110420 "
S250.0	S250.0	50.0ML	WP110419 "
S500.0	S500.0	50.0ML	WP110418 "
ICV	ICV	50.0ML	WP110424 "
ICB	ICB	50.0ML	WP108640 "
CCV	CCV	50.0ML	WP110425 "
CCB	CCB	50.0ML	WP108640 "
Midrange	Midrange	N/A	N/A
HIGHSTD	HIGHSTD	N/A	N/A
LOWSTD	LOWSTD	N/A	N/A

## Extraction Conformance/Non-Conformance Comments:

MIDI-DISTILLATION\_SOIL; I-ST BATCH MC-2 START TEMP:123 C; MC-2 END TEMP: 126 C; II-ND BATCH MC-2 START TEMP:123 C; MC-2 END TEMP: 127 C; Block Therm.ID: WC-CYANIDE-2

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
10-25-2024, 11:45	Jn	NHWC
	Preparation Group	Analysis Group



Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
P4500-01	MBHCN1	1.05	50	N/A	N/A	N/A	N/A	N/A I batch	N/A
P4500-02	MBHCN2	1.02	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-03	MBHCN3	1.04	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-04	MBHCN4	1.01	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-05	MBHCN5	1.04	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-06	MBHCN6	1.02	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-07	MBHCN7	1.06	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-08	MBHCN8	1.03	50	N/A	N/A	N/A	N/A	N/A II batch	N/A
P4500-09	MBHCN9	1.05	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-10	MBHCP0	1.03	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-11	MBHCP0D	1.05	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-12	MBHCP0S	1.05	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-13	MBHCP1	1.04	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-14	MBHCP2	1.01	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-15	MBHCP3	1.02	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-16	MBHCP4	1.08	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-17	MBHCP5	1.03	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-18	MBHCP6	1.05	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-19	MBHCP7	1.06	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-20	MBHCX2	1.01	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-21	MBHCX3	1.07	50	N/A	N/A	N/A	N/A	N/A "	N/A
P4500-22	MBHCZ6	1.02	50	N/A	N/A	N/A	N/A	N/A "	N/A
PB164413BL	PBS413	1.00	50	N/A	N/A	N/A	N/A	N/A I batch	N/A

**Instrument ID:** KONELAB

**Daily Analysis Runlog For Sequence/QC Batch ID # LB133219**

Review By	Niha Farheen Shaik	Review On	11/1/2024 10:20:10 AM
Supervise By	Iwona Zarych	Supervise On	11/1/2024 12:31:00 PM
<b>STD. NAME</b>	<b>STD REF.#</b>		
ICAL Standard	WP110423,WP110422,WP110421,WP110420,WP110419,WP110418		
ICV Standard	WP110424		
CCV Standard	WP110425		
ICSA Standard			
CRI Standard			
LCS Standard			
Chk Standard	WP110103,WP109089,WP110456		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0.0	S0	CAL1	10/28/24 09:49		Niha	OK
2	S5.0	S01	CAL2	10/28/24 09:49		Niha	OK
3	S10.0	S02	CAL3	10/28/24 09:49		Niha	OK
4	S100.0	S03	CAL4	10/28/24 09:49		Niha	OK
5	S250.0	S04	CAL5	10/28/24 09:49		Niha	OK
6	S500.0	S05	CAL6	10/28/24 09:49		Niha	OK
7	ICV001	ICV001	ICV	10/28/24 10:42		Niha	OK
8	ICB001	ICB001	ICB	10/28/24 10:42		Niha	OK
9	CCV001	CCV001	CCV	10/28/24 10:42		Niha	OK
10	CCB001	CCB001	CCB	10/28/24 10:42		Niha	OK
11	PB164413BL	PBS413	MB	10/28/24 10:42		Niha	OK
12	P4500-01	MBHCN1	SAM	10/28/24 10:42		Niha	OK
13	P4500-02	MBHCN2	SAM	10/28/24 10:50		Niha	OK
14	P4500-03	MBHCN3	SAM	10/28/24 10:50		Niha	OK
15	P4500-04	MBHCN4	SAM	10/28/24 10:50		Niha	OK
16	P4500-05	MBHCN5	SAM	10/28/24 10:50		Niha	OK
17	P4500-06	MBHCN6	SAM	10/28/24 10:50		Niha	OK
18	P4500-07	MBHCN7	SAM	10/28/24 10:50		Niha	OK

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CCV Standard	WP110425		
ICSA Standard			
CRI Standard			
LCS Standard			
Chk Standard	WP110103,WP109089,WP110456		

19	P4500-08	MBHCN8	SAM	10/28/24 10:50		Niha	OK
20	P4500-09	MBHCN9	SAM	10/28/24 10:50		Niha	OK
21	P4500-10	MBHCP0	SAM	10/28/24 10:50		Niha	OK
22	P4500-11	MBHCP0D	DUP	10/28/24 10:50		Niha	OK
23	P4500-12	MBHCP0S	MS	10/28/24 10:57		Niha	OK
24	P4500-13	MBHCP1	SAM	10/28/24 10:57		Niha	OK
25	P4500-14	MBHCP2	SAM	10/28/24 10:57		Niha	OK
26	P4500-15	MBHCP3	SAM	10/28/24 10:57		Niha	OK
27	P4500-16	MBHCP4	SAM	10/28/24 10:57		Niha	OK
28	P4500-17	MBHCP5	SAM	10/28/24 10:57		Niha	OK
29	P4500-18	MBHCP6	SAM	10/28/24 10:57		Niha	OK
30	P4500-19	MBHCP7	SAM	10/28/24 10:57		Niha	OK
31	P4500-20	MBHCX2	SAM	10/28/24 10:57		Niha	OK
32	P4500-21	MBHCX3	SAM	10/28/24 10:57		Niha	OK
33	P4500-22	MBHCZ6	SAM	10/28/24 10:57		Niha	OK
34	CCV002	CCV002	CCV	10/28/24 11:05		Niha	OK
35	CCB002	CCB002	CCB	10/28/24 11:05		Niha	OK
36	PB164414BL	PBS414	MB	10/28/24 11:05		Niha	OK
37	P4501-01	MBHCS8	SAM	10/28/24 11:05		Niha	OK
38	P4501-02	MBHCS9	SAM	10/28/24 11:05		Niha	OK

Instrument ID: KONELAB

**Daily Analysis Runlog For Sequence/QC Batch ID # LB133219**

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ICV Standard	WP110424		
CCV Standard	WP110425		
ICSA Standard			
CRI Standard			
LCS Standard			
Chk Standard	WP110103,WP109089,WP110456		

39	P4501-03	MBHCT0	SAM	10/28/24 11:05		Niha	OK
40	P4501-04	MBHCT1	SAM	10/28/24 11:05		Niha	OK
41	P4501-05	MBHCT2	SAM	10/28/24 11:05		Niha	OK
42	P4501-06	MBHCT3	SAM	10/28/24 11:05		Niha	OK
43	P4501-07	MBHCT4	SAM	10/28/24 11:12		Niha	OK
44	P4501-08	MBHCT5	SAM	10/28/24 11:12		Niha	OK
45	P4501-09	MBHCT6	SAM	10/28/24 11:12		Niha	OK
46	P4501-10	MBHCT7	SAM	10/28/24 11:12		Niha	OK
47	P4501-11	MBHCT8	SAM	10/28/24 11:12		Niha	OK
48	P4501-12	MBHCT9	SAM	10/28/24 11:12		Niha	OK
49	P4501-13	MBHCW0	SAM	10/28/24 11:12		Niha	OK
50	P4501-14	MBHCW0D	DUP	10/28/24 11:12		Niha	OK
51	P4501-15	MBHCW0S	MS	10/28/24 11:12		Niha	OK
52	P4501-16	MBHCW1	SAM	10/28/24 11:12		Niha	OK
53	P4501-17	MBHCW2	SAM	10/28/24 11:19		Niha	OK
54	P4501-18	MBHCW3	SAM	10/28/24 11:19		Niha	OK
55	P4501-19	MBHCW4	SAM	10/28/24 11:19		Niha	OK
56	P4501-20	MBHCW5	SAM	10/28/24 11:19		Niha	OK
57	P4501-21	MBHCW6	SAM	10/28/24 11:19		Niha	OK
58	P4501-22	MBHCW7	SAM	10/28/24 11:19		Niha	OK

**Instrument ID:** KONELAB

**Daily Analysis Runlog For Sequence/QCBatch ID # LB133219**

Review By	Niha Farheen Shaik	Review On	11/1/2024 10:20:10 AM
Supervise By	Iwona Zarych	Supervise On	11/1/2024 12:31:00 PM

STD. NAME	STD REF.#
ICAL Standard	WP110423,WP110422,WP110421,WP110420,WP110419,WP110418 WP110424 WP110425    WP110103,WP109089,WP110456
ICV Standard	
CCV Standard	
ICSA Standard	
CRI Standard	
LCS Standard	
Chk Standard	

59	CCV003	CCV003	CCV	10/28/24 11:20		Niha	OK
60	CCB003	CCB003	CCB	10/28/24 11:20		Niha	OK