EPA SAMPLE NO.

MBHCX4

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-11

% Solids: 80.3 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.027	J	11/10/2024	1343

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

Comments:

EPA SAMPLE NO.

MBHCX7

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-12

% Solids: 82.6 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.11	U	11/10/2024	1346

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

Comments:

EPA SAMPLE NO.

MBHCX8

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-13

% Solids: 79 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.032	J	11/10/2024	1348

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

Comments:

EPA SAMPLE NO.

MBHCX9

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-14

% Solids: 66 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.022	J	11/10/2024	1350

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

Comments:

EPA SAMPLE NO.

MBHCY1

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-01

% Solids: 81 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.088	J	11/10/2024	1321

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

Comments:

EPA SAMPLE NO.

MBHCY2

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-02

% Solids: 71.9 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.16		11/10/2024	1323

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

Comments:

EPA SAMPLE NO.

MBHCY3

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-03

% Solids: 85.7 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.10	U	11/10/2024	1325

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

Comments:

EPA SAMPLE NO.

MBHCY4

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-04

% Solids: 56.5 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.17	U	11/10/2024	1328

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

Comments:

EPA SAMPLE NO.

MBHCY8

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-05

% Solids: 79 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.11	U	11/10/2024	1330

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

Comments:

EPA SAMPLE NO.

MBHCY9

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-06

% Solids: 81.4 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.10	U	11/10/2024	1332

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

Comments:

EPA SAMPLE NO.

MBHCZ0

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-07

% Solids: 73.6 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.79		11/10/2024	1334

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

Comments:

EPA SAMPLE NO.

MBHCZ1

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-08

% Solids: 82.4 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.12	U	11/10/2024	1337

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

Comments:

EPA SAMPLE NO.

MBHCZ2

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-09

% Solids: 78.8 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.11	U	11/10/2024	1339

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

Comments:

EPA SAMPLE NO.

MBHCZ3

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-10

% Solids: 86.4 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.075	J	11/10/2024	1341

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

Comments:

EPA SAMPLE NO.

MBHDO0

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-15

% Solids: 80.8 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.11	U	11/10/2024	1352

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

Comments:

EPA SAMPLE NO.

MBHDO1

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-16

% Solids: 81.2 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.11	U	11/10/2024	1355

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

Comments:

EPA SAMPLE NO.

MBHDO2

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-17

% Solids: 78.2 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.027	J	11/10/2024	1357

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

Comments:

EPA SAMPLE NO.

MBHDO3

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-18

% Solids: 77.1 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.021	J	11/10/2024	1359

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

Comments:

EPA SAMPLE NO.

MBHDO4

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-19

% Solids: 79.3 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.056	J	11/10/2024	1402

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

Comments:

EPA SAMPLE NO.

MBHZC9

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.: MBHCX4

Matrix: SOIL Lab Sample ID: P4502-20

% Solids: 82.7 Date Received: 10/23/2024

Analytical Method: Hg

Concentration Units (µg/L, mg/L, mg/kg dry weight, µg, or µg/cm²): mg/kg

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.11	U	11/10/2024	1411

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

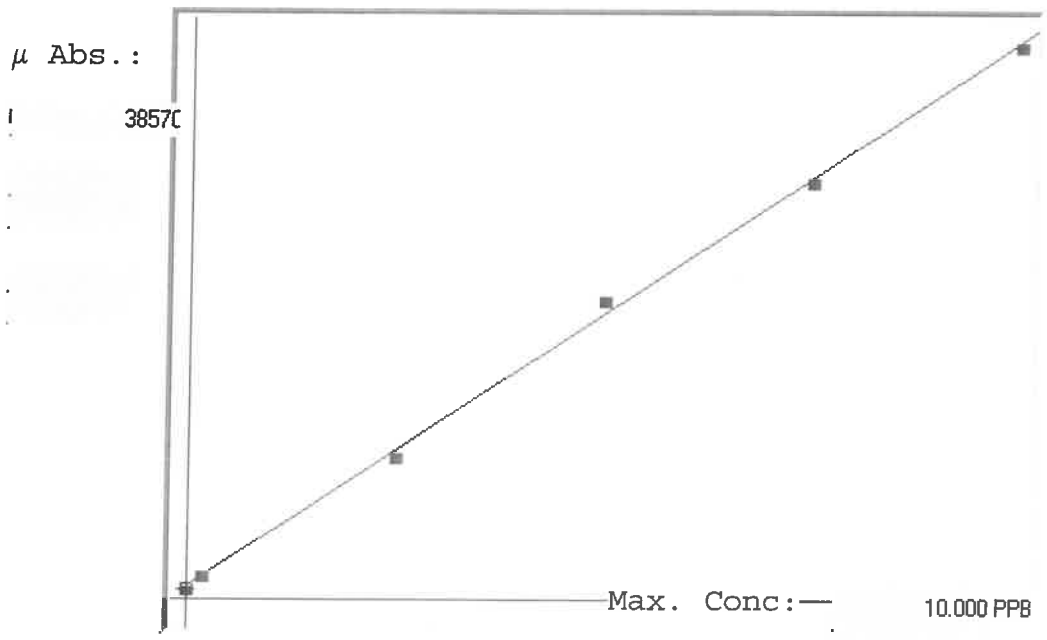
Comments:

LB133377

SFAM01.1

INSTRUMENT ID: CV1

Linear



A= 0.0000e+000

B= 2.6314e-004 slope

C= -2.3447e-001 y-intercept

Rho= 0.9994024

Accept=Accepted

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0.00	0.000	-0.036	-0.036	754	0.000	754				
0.05	0.050					442	0			
0.20	0.200	0.197	-0.003	1639	0.0 %	1639				
2.50	2.500	2.398	-0.102	10003	0.0 %	10003				
5.00	5.000	5.276	0.276	20941	0.0 %	20941				
7.50	7.500	7.451	-0.049	29205	0.0 %	29205				
10.0	10.000	9.915	-0.085	38570	0.0 %	38570				

0/0D

LB133377

INSTRUMENT ID : CV1

Sample ID	Extended ID	µ Abs.	Conc.		Stnd Conc	Method	Units	Date	Type
0	S0	754	-		0	SFAM01.1	PPB	11/10/2024 12:48	Std
0.2	S01	1639	-		0.2	SFAM01.1	PPB	11/10/2024 12:50	Std
2.5	S02	10003	-		2.5	SFAM01.1	PPB	11/10/2024 12:54	Std
5	S03	20941	-		5	SFAM01.1	PPB	11/10/2024 12:56	Std
7.5	S04	29205	-		7.5	SFAM01.1	PPB	11/10/2024 12:59	Std
10	S05	38570	-		10	SFAM01.1	PPB	11/10/2024 13:04	Std
ICV079	ICV079	16938	4.2226	-		SFAM01.1	PPB	11/10/2024 13:06	SMPL
ICB079	ICB079	594	-0.0782	-		SFAM01.1	PPB	11/10/2024 13:09	SMPL
CCV061	CCV061	21007	5.2934	-		SFAM01.1	PPB	11/10/2024 13:11	SMPL
CCB061	CCB061	573	-0.0837	-		SFAM01.1	PPB	11/10/2024 13:13	SMPL
PB164852BL	PBS852	746	-0.0382	-		SFAM01.1	PPB	11/10/2024 13:18	SMPL
P4502-01	MBHCY1	2250	0.3576	-		SFAM01.1	PPB	11/10/2024 13:21	SMPL
P4502-02	MBHCY2	3217	0.6121	-		SFAM01.1	PPB	11/10/2024 13:23	SMPL
P4502-03	MBHCY3	352	-0.1418	-		SFAM01.1	PPB	11/10/2024 13:25	SMPL
P4502-04	MBHCY4	355	-0.1411	-		SFAM01.1	PPB	11/10/2024 13:28	SMPL
P4502-05	MBHCY8	433	-0.1205	-		SFAM01.1	PPB	11/10/2024 13:30	SMPL
P4502-06	MBHCY9	423	-0.1232	-		SFAM01.1	PPB	11/10/2024 13:32	SMPL
P4502-07	MBHCZ0	12176	2.9695	-		SFAM01.1	PPB	11/10/2024 13:34	SMPL
P4502-08	MBHCZ1	765	-0.0332	-		SFAM01.1	PPB	11/10/2024 13:37	SMPL
P4502-09	MBHCZ2	501	-0.1026	-		SFAM01.1	PPB	11/10/2024 13:39	SMPL
P4502-10	MBHCZ3	2273	0.3636	-		SFAM01.1	PPB	11/10/2024 13:41	SMPL
P4502-11	MBHCX4	1368	0.1255	-		SFAM01.1	PPB	11/10/2024 13:43	SMPL
P4502-12	MBHCX7	1115	0.0589	-		SFAM01.1	PPB	11/10/2024 13:46	SMPL
P4502-13	MBHCX8	1453	0.1479	-		SFAM01.1	PPB	11/10/2024 13:48	SMPL
P4502-14	MBHCX9	1211	0.0842	-		SFAM01.1	PPB	11/10/2024 13:50	SMPL
P4502-15	MBHDO0	237	-0.1721	-		SFAM01.1	PPB	11/10/2024 13:52	SMPL
P4502-16	MBHDO1	301	-0.1553	-		SFAM01.1	PPB	11/10/2024 13:55	SMPL
P4502-17	MBHDO2	1356	0.1223	-		SFAM01.1	PPB	11/10/2024 13:57	SMPL
P4502-18	MBHDO3	1219	0.0863	-		SFAM01.1	PPB	11/10/2024 13:59	SMPL
P4502-19	MBHDO4	1755	0.2273	-		SFAM01.1	PPB	11/10/2024 14:02	SMPL
CCV062	CCV062	18344	4.5926	-		SFAM01.1	PPB	11/10/2024 14:07	SMPL
CCB062	CCB062	557	-0.0879	-		SFAM01.1	PPB	11/10/2024 14:09	SMPL
P4502-20	MBHZC9	475	-0.1095	-		SFAM01.1	PPB	11/10/2024 14:11	SMPL
P4502-21	MBHZC9D	590	-0.0792	-		SFAM01.1	PPB	11/10/2024 14:14	SMPL
P4502-22	MBHZC9S	12203	2.9767	-		SFAM01.1	PPB	11/10/2024 14:16	SMPL
CCV063	CCV063	21068	5.3094	-		SFAM01.1	PPB	11/10/2024 14:18	SMPL
CCB063	CCB063	531	-0.0947	-		SFAM01.1	PPB	11/10/2024 14:20	SMPL

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Prep Standard - Chemical Standard Summary

Order ID : P4502

Test : Cyanide

Prepbatch ID : PB164480,

Sequence ID/Qc Batch ID: LB133191,

Standard ID :
WP108640,WP108688,WP109089,WP110035,WP110103,WP110390,WP110391,WP110457,WP110458,WP110459,WP110460,WP110461,WP110462,WP110463,WP110464,WP110465,WP110474,

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

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Fax : 908 789 8922

Wet Chemistry STANDARD PREPARATION LOG

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

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1581	Sodium hydroxide solution, 1.25N	WP108688	07/11/2024	01/11/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 07/11/2024

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

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2816	CN-EPA Pyridine-Burbituric Acid solution	WP109089	08/07/2024	12/27/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 08/07/2024

FROM 15.00000gram of W2882 + 15.00000ml of M5951 + 75.00000ml of W3019 + 895.00000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3850	Cyanide MS-MSD spiking solution, 5PPM	WP110035	10/03/2024	11/30/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 10/04/2024

FROM 1.00000ml of W3142 + 199.00000ml of WP108640 = Final Quantity: 200.000 ml

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Fax : 908 789 8922

Wet Chemistry STANDARD PREPARATION LOG

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

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

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

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

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Fax : 908 789 8922

Wet Chemistry STANDARD PREPARATION LOG

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

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1585	Cyanide Intermediate standard solution, 10PPM	WP110457	10/28/2024	10/29/2024	Niha Farheen Shaik	None	None	Iwona Zarych 10/30/2024

FROM 1.00000ml of W3142 + 79.00000ml of W3112 + 20.00000ml of WP108688 = Final Quantity: 100.000 ml

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Fax : 908 789 8922

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1586	Cyanide Cal Std, 500 PPB	WP110458	10/28/2024	10/29/2024	Niha Farheen Shaik	None	None	Iwona Zarych 10/30/2024

FROM 5.00000ml of WP110457 + 95.00000ml of WP108640 = Final Quantity: 0.100 L

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1587	Cyanide Cal Std, 250 PPB	WP110459	10/28/2024	10/29/2024	Niha Farheen Shaik	None	None	Iwona Zarych 10/30/2024

FROM 2.50000ml of WP110457 + 97.50000ml of WP108640 = Final Quantity: 0.100 L

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Fax : 908 789 8922

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1588	Cyanide Cal Std, 100 PPB	WP110460	10/28/2024	10/29/2024	Niha Farheen Shaik	None	None	Iwona Zarych 10/30/2024

FROM 1.00000ml of WP110457 + 99.00000ml of WP108640 = Final Quantity: 0.100 L

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1589	Cyanide Cal Std, 10 PPB	WP110461	10/28/2024	10/29/2024	Niha Farheen Shaik	None	None	Iwona Zarych 10/30/2024

FROM 4.00000ml of WP110459 + 96.00000ml of WP108640 = Final Quantity: 0.100 L

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1590	Cyanide Cal Std, 5 PPB	WP110462	10/28/2024	10/29/2024	Niha Farheen Shaik	None	None	Iwona Zarych 10/30/2024

FROM 2.00000ml of WP110459 + 98.00000ml of WP108640 = Final Quantity: 0.100 L

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1591	Cyanide blank std, 0 PPB	WP110463	10/28/2024	10/29/2024	Niha Farheen Shaik	None	None	Iwona Zarych 10/30/2024

FROM 100.00000ml of WP108640 = Final Quantity: 0.100 L

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1592	Cyanide CCV Std, 250 PPB	WP110464	10/28/2024	10/29/2024	Niha Farheen Shaik	None	None	Iwona Zarych 10/30/2024

FROM 2.50000ml of WP110457 + 97.50000ml of WP108640 = Final Quantity: 0.100 L

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1763	Cyanide ICV Std	WP110465	10/28/2024	10/29/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 10/30/2024

FROM 0.50000ml of W3011 + 49.50000ml of WP108640 = Final Quantity: 50.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1582	Chloramine T solution, 0.014M	WP110474	10/29/2024	10/30/2024	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 10/30/2024

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

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

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, CRYS, ACS, 2.5 KG	0000225799	12/03/2025	04/05/2021 / Alexander	02/10/2020 / apatel	W2668

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	RC2543-4 / CYANIDE STD 1000PPM 4OZ	1405J81	11/30/2024	09/25/2024 / Iwona	09/25/2024 / Iwona	W3142

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

Chem-Impex International, Inc.

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

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

Certificate of Analysis

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

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

Certificate of Analysis

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

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

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

Bala Kumar
Quality Control Manager

Sigma-Aldrich.

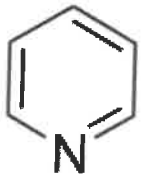
W3019
Rec 4/3/23

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

Certificate of Analysis

Product Name:
Pyridine - anhydrous, 99.8%

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



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

Larry Coers, Director
Quality Control
Sheboygan Falls, WI US

VWR®

Certificate of Analysis

Sodium Hydroxide (Pellets)

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

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

Pellets

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

Storage: Room Temperature

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

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

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

Additional Information

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

Product meets analytical specifications of the grades listed.

E 3657	E 3659
E 3654	E 3660

W3011
W3012
W3013
W3014
W3015

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

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

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

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

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

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

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

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

avantor™ | J.T.Baker®

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

Certificate of Analysis

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

>>> Continued on page 2 >>>

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

avantor™ | J.T.Baker®

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

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

For Laboratory,Research,or Manufacturing Use

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

James T Ethier

Jamie Ethier
Vice President Global Quality

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

avantor™ | J.T.Baker®

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_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 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™ | J.T.Baker®

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

avantor™ | J.T.Baker®

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

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

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

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

Jamie Ethier
Vice President Global Quality

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

Certificate of Analysis

Sodium Hydroxide (Pellets)

Material: 0583

Grade: ACS GRADE

Batch Number: 23B1556310

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

Pellets

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

Storage: Room Temperature

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

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

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

Additional Information

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

Product meets analytical specifications of the grades listed.

Certificate of Analysis

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

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.

ThermoFisher SCIENTIFIC

Certificate of Analysis

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

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RICCA CHEMICAL COMPANY®

448 West Fork Dr
Arlington, TX 76012
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1-888-GO-RICCA
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Certificate of Analysis

Cyanide Standard, 1000 ppm CN^-

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^-)	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
2543-4	120 mL amber poly	6 months

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

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

Alliance TECHNICAL GROUP

Soil/Sludge Mercury Preparation Sheet

PB164852

SOP ID : M7471B-Mercury-18, MSFAM01.1-Mercury in Soil-2

SDG No : MBHCX4

Matrix : SOIL

Pippete ID: HG A

Balance ID : M SC-3

Filter paper ID : NA

pH Strip ID : NA

Hood ID : #1

Block ID: 1. HG HOT BLOCK#1 2. N/A

Start Digest Date: 11/10/2024 **Time :** 08:10 **Temp :** 94 °C

End Digest Date: 11/10/2024 **Time :** 08:40 **Temp :** 94 °C

Digestion tube ID: M6054

Block thermometer ID: HG-DIG#1

Dig Technician Signature: MB

Supervisor Signature:

Temp : 1. 94°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
ICV	100mL	MP83182
CCV	100mL	MP83184
Matrix Spike	1.0mL	MP83175
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
AQUA REGIA	5.0mL	MP83188
KMnO4 (5%)	15.0mL	MP82652
Hydroxylamine HCL (12%)	6.0mL	MP82654
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
0.0 ppb	S0	100mL	MP83176
0.05 ppb	S0.05	N/A	N/A
0.2 ppb	S0.2	100mL	MP83177
2.5 ppb	S2.5	100mL	MP83178
5.0 ppb	S5.0	100mL	MP83179
7.5 ppb	S7.5	100mL	MP83180
10.0 ppb	S10.0	100mL	MP83181
ICV	ICV	100mL	MP83182
ICB	ICB	100mL	MP83183
CCV	CCV	100mL	MP83184
CCB	CCB	100mL	MP83185
CRI	CRI	N/A	N/A
CHK STD	CHK STD	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/10/24 @ 9:25	MB - Dig Lab	MB - Metal Lab
	Preparation Group	**Analysis Group**

Alliance TECHNICAL GROUP

Soil/Sludge Mercury Preparation Sheet

PB164852

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Comment	Prep Pos
P4502-01	MBHCY1	0.50	100	NA	N/A	2-1
P4502-02	MBHCY2	0.52	100	NA	N/A	2
P4502-03	MBHCY3	0.57	100	NA	N/A	3
P4502-04	MBHCY4	0.51	100	NA	N/A	4
P4502-05	MBHCY8	0.59	100	NA	N/A	5
P4502-06	MBHCY9	0.59	100	NA	N/A	6
P4502-07	MBHCZ0	0.51	100	NA	N/A	7
P4502-08	MBHCZ1	0.50	100	NA	N/A	8
P4502-09	MBHCZ2	0.57	100	NA	N/A	9
P4502-10	MBHCZ3	0.56	100	NA	N/A	10
P4502-11	MBHCX4	0.57	100	NA	N/A	11
P4502-12	MBHCX7	0.54	100	NA	N/A	12
P4502-13	MBHCX8	0.58	100	NA	N/A	13
P4502-14	MBHCX9	0.59	100	NA	N/A	14
P4502-15	MBHDO0	0.59	100	NA	N/A	15
P4502-16	MBHDO1	0.56	100	NA	N/A	16
P4502-17	MBHDO2	0.59	100	NA	N/A	17
P4502-18	MBHDO3	0.53	100	NA	N/A	18
P4502-19	MBHDO4	0.51	100	NA	N/A	19
P4502-20	MBHZC9	0.54	100	NA	N/A	20
P4502-21	MBHZC9D	0.53	100	NA	N/A	21
P4502-22	MBHZC9S	0.53	100	NA	MP83175	22
PB164852BL	PBS852	0.50	100	NA	N/A	23

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

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB133377

Review By	Sarabjit Jaswal	Review On	11/11/2024 9:31:46 PM
Supervise By	Mohan Bera	Supervise On	11/11/2024 9:32:39 PM

STD. NAME	STD REF.#
ICAL Standard	MP83176,MP83177,MP83178,MP83179,MP83180,MP83181
ICV Standard	MP83182
CCV Standard	MP83184
ICSA Standard	
CRI Standard	
LCS Standard	
Chk Standard	MP83183,MP83185,MP83189

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	11/10/24 12:48		Mohan	OK
2	S0.2	S01	CAL2	11/10/24 12:50		Mohan	OK
3	S2.5	S02	CAL3	11/10/24 12:54		Mohan	OK
4	S5	S03	CAL4	11/10/24 12:56		Mohan	OK
5	S7.5	S04	CAL5	11/10/24 12:59		Mohan	OK
6	S10	S05	CAL6	11/10/24 13:04		Mohan	OK
7	ICV079	ICV079	ICV	11/10/24 13:06		Mohan	OK
8	ICB079	ICB079	ICB	11/10/24 13:09		Mohan	OK
9	CCV061	CCV061	CCV	11/10/24 13:11		Mohan	OK
10	CCB061	CCB061	CCB	11/10/24 13:13		Mohan	OK
11	PB164852BL	PBS852	MB	11/10/24 13:18		Mohan	OK
12	P4502-01	MBHCY1	SAM	11/10/24 13:21		Mohan	OK
13	P4502-02	MBHCY2	SAM	11/10/24 13:23		Mohan	OK
14	P4502-03	MBHCY3	SAM	11/10/24 13:25		Mohan	OK
15	P4502-04	MBHCY4	SAM	11/10/24 13:28		Mohan	OK
16	P4502-05	MBHCY8	SAM	11/10/24 13:30		Mohan	OK
17	P4502-06	MBHCY9	SAM	11/10/24 13:32		Mohan	OK
18	P4502-07	MBHCZ0	SAM	11/10/24 13:34		Mohan	OK

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Review By	Sarabjit Jaswal	Review On	11/11/2024 9:31:46 PM
Supervise By	Mohan Bera	Supervise On	11/11/2024 9:32:39 PM

STD. NAME	STD REF.#
ICAL Standard	MP83176,MP83177,MP83178,MP83179,MP83180,MP83181
ICV Standard	MP83182
CCV Standard	MP83184
ICSA Standard	
CRI Standard	
LCS Standard	
Chk Standard	MP83183,MP83185,MP83189

19	P4502-08	MBHCZ1	SAM	11/10/24 13:37		Mohan	OK
20	P4502-09	MBHCZ2	SAM	11/10/24 13:39		Mohan	OK
21	P4502-10	MBHCZ3	SAM	11/10/24 13:41		Mohan	OK
22	P4502-11	MBHCX4	SAM	11/10/24 13:43		Mohan	OK
23	P4502-12	MBHCX7	SAM	11/10/24 13:46		Mohan	OK
24	P4502-13	MBHCX8	SAM	11/10/24 13:48		Mohan	OK
25	P4502-14	MBHCX9	SAM	11/10/24 13:50		Mohan	OK
26	P4502-15	MBHDO0	SAM	11/10/24 13:52		Mohan	OK
27	P4502-16	MBHDO1	SAM	11/10/24 13:55		Mohan	OK
28	P4502-17	MBHDO2	SAM	11/10/24 13:57		Mohan	OK
29	P4502-18	MBHDO3	SAM	11/10/24 13:59		Mohan	OK
30	P4502-19	MBHDO4	SAM	11/10/24 14:02		Mohan	OK
31	CCV062	CCV062	CCV	11/10/24 14:07		Mohan	OK
32	CCB062	CCB062	CCB	11/10/24 14:09		Mohan	OK
33	P4502-20	MBHZC9	SAM	11/10/24 14:11		Mohan	OK
34	P4502-21	MBHZC9D	DUP	11/10/24 14:14		Mohan	OK
35	P4502-22	MBHZC9S	MS	11/10/24 14:16		Mohan	OK
36	CCV063	CCV063	CCV	11/10/24 14:18		Mohan	OK
37	CCB063	CCB063	CCB	11/10/24 14:20		Mohan	OK