Alliance TECHNICAL GROUP

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DATA REPORTING QUALIFIERS- INORGANIC

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

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

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LAB CHRONICLE

OrderID:	P4852	**OrderDate:**	11/14/2024 11:23:00 AM
Client:	Kleinfelder	**Project:**	Webster School
Contact:	Mark Warchol	**Location:**	L41,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4852-01	**COMP-1**	**SOIL**			**11/13/24 09:40**			**11/14/24**
			Ammonia	SM4500-NH3		11/19/24	11/19/24 15:30	
			Anions Group1	9056A			11/15/24 17:35	
			Hexavalent Chromium	7196A		11/15/24	11/15/24 12:55	
			Trivalent Chromium	6010D			11/18/24 15:26	
P4852-02	**COMP-2**	**SOIL**			**11/13/24 10:20**			**11/14/24**
			Ammonia	SM4500-NH3		11/19/24	11/19/24 15:38	
			Anions Group1	9056A			11/15/24 18:40	
			Hexavalent Chromium	7196A		11/15/24	11/15/24 12:56	
			Trivalent Chromium	6010D			11/18/24 15:31	
P4852-03	**COMP-3**	**SOIL**			**11/13/24 10:50**			**11/14/24**
			Ammonia	SM4500-NH3		11/19/24	11/19/24 15:38	
			Anions Group1	9056A			11/15/24 19:01	
			Hexavalent Chromium	7196A		11/15/24	11/15/24 12:57	
			Trivalent Chromium	6010D			11/18/24 15:43	

SAMPLE DATA

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Report of Analysis

Client:	Kleinfelder	Date Collected:	11/13/24 09:40
Project:	Webster School	Date Received:	11/14/24
Client Sample ID:	COMP-1	SDG No.:	P4852
Lab Sample ID:	P4852-01	Matrix:	SOIL
		% Solid:	83.2

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Ammonia as N	1.10	U	1	1.10	6.00	mg/Kg	11/19/24 12:20	11/19/24 15:30	SM 4500-NH3 B plus G-11
Chloride	44.7		1	0.12	14.4	mg/Kg		11/15/24 17:35	9056A
Fluoride	6.70	J	1	0.46	9.60	mg/Kg		11/15/24 17:35	9056A
Sulfate	41.1	J	1	0.73	72.0	mg/Kg		11/15/24 17:35	9056A
Hexavalent Chromium	0.095	U	1	0.095	0.48	mg/Kg	11/15/24 09:30	11/15/24 12:55	7196A
Trivalent Chromium	18.6		1	0.60	0.60	mg/Kg		11/18/24 15:26	6010D

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Kleinfelder	Date Collected:	11/13/24 10:20
Project:	Webster School	Date Received:	11/14/24
Client Sample ID:	COMP-2	SDG No.:	P4852
Lab Sample ID:	P4852-02	Matrix:	SOIL
		% Solid:	81.4

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Ammonia as N	1.10	U	1	1.10	6.00	mg/Kg	11/19/24 12:20	11/19/24 15:38	SM 4500-NH3 B plus G-11
Chloride	36.3		1	0.12	14.6	mg/Kg		11/15/24 18:40	9056A
Fluoride	7.80	J	1	0.46	9.80	mg/Kg		11/15/24 18:40	9056A
Sulfate	29.1	J	1	0.74	73.1	mg/Kg		11/15/24 18:40	9056A
Hexavalent Chromium	0.096	U	1	0.096	0.48	mg/Kg	11/15/24 09:30	11/15/24 12:56	7196A
Trivalent Chromium	10.8		1	0.61	0.61	mg/Kg		11/18/24 15:31	6010D

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Kleinfelder	Date Collected:	11/13/24 10:50
Project:	Webster School	Date Received:	11/14/24
Client Sample ID:	COMP-3	SDG No.:	P4852
Lab Sample ID:	P4852-03	Matrix:	SOIL
		% Solid:	88.4

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Ammonia as N	1.10	J	1	1.00	5.60	mg/Kg	11/19/24 12:20	11/19/24 15:38	SM 4500-NH3 B plus G-11
Chloride	65.0		1	0.11	13.5	mg/Kg		11/15/24 19:01	9056A
Fluoride	9.10		1	0.43	9.00	mg/Kg		11/15/24 19:01	9056A
Sulfate	68.3		1	0.69	67.6	mg/Kg		11/15/24 19:01	9056A
Hexavalent Chromium	0.088	U	1	0.088	0.45	mg/Kg	11/15/24 09:30	11/15/24 12:57	7196A
Trivalent Chromium	16.2		1	0.57	0.57	mg/Kg		11/18/24 15:43	6010D

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

QC RESULT SUMMARY

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Initial and Continuing Calibration Verification

Client: Kleinfelder **SDG No.:** P4852

Project: Webster School **RunNo.:** LB133468

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV						
Hexavalent Chromium	mg/L	0.498	0.5	100	90-110	11/15/2024
Sample ID: CCV1						
Hexavalent Chromium	mg/L	0.502	0.5	100	90-110	11/15/2024
Sample ID: CCV2						
Hexavalent Chromium	mg/L	0.501	0.5	100	90-110	11/15/2024
Sample ID: CCV3						
Hexavalent Chromium	mg/L	0.498	0.5	100	90-110	11/15/2024

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Initial and Continuing Calibration Verification

Client: Kleinfelder **SDG No.:** P4852

Project: Webster School **RunNo.:** LB133508

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: **ICV1**						
Bromide	mg/L	10	10	100	90-110	10/16/2024
Chloride	mg/L	3	3	100	90-110	10/16/2024
Fluoride	mg/L	2	2	100	90-110	10/16/2024
Nitrite	mg/L	3	3	100	90-110	10/16/2024
Nitrate	mg/L	2.5	2.5	100	90-110	10/16/2024
Sulfate	mg/L	14.9	15	99	90-110	10/16/2024
Orthophosphate as P	mg/L	4.8	5	96	90-110	10/16/2024
Sample ID: **CCV1**						
Bromide	mg/L	10.5	10	105	90-110	11/15/2024
Chloride	mg/L	3.1	3	103	90-110	11/15/2024
Fluoride	mg/L	2.1	2	105	90-110	11/15/2024
Nitrite	mg/L	3.1	3	103	90-110	11/15/2024
Nitrate	mg/L	2.6	2.5	104	90-110	11/15/2024
Sulfate	mg/L	15.5	15	103	90-110	11/15/2024
Orthophosphate as P	mg/L	5.2	5	104	90-110	11/15/2024
Sample ID: **CCV2**						
Bromide	mg/L	10.5	10	105	90-110	11/15/2024
Chloride	mg/L	3.1	3	103	90-110	11/15/2024
Fluoride	mg/L	2.1	2	105	90-110	11/15/2024
Nitrite	mg/L	3.1	3	103	90-110	11/15/2024
Nitrate	mg/L	2.6	2.5	104	90-110	11/15/2024
Sulfate	mg/L	15.5	15	103	90-110	11/15/2024
Orthophosphate as P	mg/L	5.2	5	104	90-110	11/15/2024

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Initial and Continuing Calibration Verification

Client: Kleinfelder **SDG No.:** P4852

Project: Webster School **RunNo.:** LB133520

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	ICV1						
Ammonia as N		mg/L	0.99	1	99	90-110	11/19/2024
Sample ID:	CCV1						
Ammonia as N		mg/L	0.99	1	99	90-110	11/19/2024
Sample ID:	CCV2						
Ammonia as N		mg/L	1	1	100	90-110	11/19/2024
Sample ID:	CCV3						
Ammonia as N		mg/L	1	1	100	90-110	11/19/2024

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Initial and Continuing Calibration Blank Summary

Client: Kleinfelder **SDG No.:** P4852

Project: Webster School **RunNo.:** LB133468

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB							
Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/15/2024
Sample ID: CCB1							
Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/15/2024
Sample ID: CCB2							
Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/15/2024
Sample ID: CCB3							
Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/15/2024

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Initial and Continuing Calibration Blank Summary

Client: Kleinfelder **SDG No.:** P4852

Project: Webster School **RunNo.:** LB133508

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	10/16/2024
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	10/16/2024
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	10/16/2024
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	10/16/2024
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	10/16/2024
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	10/16/2024
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	10/16/2024
Sample ID: CCB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	11/15/2024
Chloride	mg/L	0.074	0.3000	J	0.011	0.6	11/15/2024
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	11/15/2024
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	11/15/2024
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	11/15/2024
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	11/15/2024
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	11/15/2024
Sample ID: CCB2							
Bromide	mg/L	< 1.0000	1.0000	U	0.034	2	11/15/2024
Chloride	mg/L	< 0.3000	0.3000	U	0.011	0.6	11/15/2024
Fluoride	mg/L	< 0.2000	0.2000	U	0.057	0.4	11/15/2024
Nitrite	mg/L	< 0.3000	0.3000	U	0.011	0.6	11/15/2024
Nitrate	mg/L	< 0.2500	0.2500	U	0.0034	0.5	11/15/2024
Sulfate	mg/L	< 1.5000	1.5000	U	0.032	3	11/15/2024
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.079	1	11/15/2024

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Initial and Continuing Calibration Blank Summary

Client: Kleinfelder **SDG No.:** P4852

Project: Webster School **RunNo.:** LB133520

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1							
Ammonia as N	mg/L	< 0.0500	0.0500	U	0.045	0.1	11/19/2024
Sample ID: CCB1							
Ammonia as N	mg/L	< 0.0500	0.0500	U	0.045	0.1	11/19/2024
Sample ID: CCB2							
Ammonia as N	mg/L	< 0.0500	0.0500	U	0.045	0.1	11/19/2024
Sample ID: CCB3							
Ammonia as N	mg/L	< 0.0500	0.0500	U	0.045	0.1	11/19/2024

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Preparation Blank Summary

Client: Kleinfelder **SDG No.:** P4852

Project: Webster School

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB133508BLS							
Bromide	mg/Kg	< 20.0000	20.0000	U	0.49	40	11/15/2024
Chloride	mg/Kg	< 6.0000	6.0000	U	0.096	12	11/15/2024
Fluoride	mg/Kg	< 4.0000	4.0000	U	0.38	8	11/15/2024
Nitrite	mg/Kg	< 6.0000	6.0000	U	0.19	12	11/15/2024
Nitrate	mg/Kg	< 5.0000	5.0000	U	0.089	10	11/15/2024
Sulfate	mg/Kg	< 30.0000	30.0000	U	0.61	60	11/15/2024
Orthophosphate as P	mg/Kg	< 10.0000	10.0000	U	0.24	20	11/15/2024
Sample ID: PB164961BL							
Hexavalent Chromium	mg/Kg	< 0.2000	0.2000	U	0.079	0.4	11/15/2024
Sample ID: PB165004BL							
Ammonia as N	mg/Kg	< 2.5000	2.5000	U	0.9	5	11/19/2024

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Matrix Spike Summary

Client: Kleinfelder
Project: Webster School
Client ID: MH-731MS
SDG No.: P4852
Sample ID: P4833-01
Percent Solids for Spike Sample: 86.3

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	75-125	1460		0.090	U	1490	40	98		11/15/2024

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Matrix Spike Summary

Client: Kleinfelder
Project: Webster School
Client ID: MH-731MS
SDG No.: P4852
Sample ID: P4833-01
Percent Solids for Spike Sample: 86.3

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	85-115	45.0		0.090	U	46.3	2	97		11/15/2024

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Matrix Spike Summary

Client: Kleinfelder
Project: Webster School
Client ID: MH-731MS
SDG No.: P4852
Sample ID: P4833-01
Percent Solids for Spike Sample: 86.3

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	75-125	38.0		0.090	U	46.3	2	82		11/15/2024

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Matrix Spike Summary

Client: Kleinfelder
Project: Webster School
Client ID: COMP-1MS
SDG No.: P4852
Sample ID: P4852-01
Percent Solids for Spike Sample: 83.2

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Bromide	mg/Kg	80-120	254		0.59	U	240	1	106		11/15/2024
Ammonia as N	mg/Kg	75-125	58.9		1.10	U	58.9	1	100		11/19/2024
Chloride	mg/Kg	80-120	137		44.7		72	1	128	*	11/15/2024
Fluoride	mg/Kg	80-120	47.1		6.70	J	48	1	84		11/15/2024
Nitrite	mg/Kg	80-120	76.2		0.23	U	72	1	106		11/15/2024
Nitrate	mg/Kg	80-120	64.4		2.30	J	60	1	104		11/15/2024
Sulfate	mg/Kg	80-120	405		41.1	J	360	1	101		11/15/2024
Orthophosphate as P	mg/Kg	80-120	88.3		8.80	J	120	1	66	*	11/15/2024

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Matrix Spike Summary

Client: Kleinfelder
Project: Webster School
Client ID: COMP-1MSD
SDG No.: P4852
Sample ID: P4852-01
Percent Solids for Spike Sample: 83.2

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Bromide	mg/Kg	80-120	254		0.59	U	240	1	106		11/15/2024
Ammonia as N	mg/Kg	75-125	60.8		1.10	U	59.5	1	102		11/19/2024
Chloride	mg/Kg	80-120	137		44.7		72	1	128	*	11/15/2024
Fluoride	mg/Kg	80-120	47.6		6.70	J	48	1	85		11/15/2024
Nitrite	mg/Kg	80-120	76.2		0.23	U	72	1	106		11/15/2024
Nitrate	mg/Kg	80-120	64.5		2.30	J	60	1	104		11/15/2024
Sulfate	mg/Kg	80-120	405		41.1	J	360	1	101		11/15/2024
Orthophosphate as P	mg/Kg	80-120	86.1		8.80	J	120	1	64	*	11/15/2024

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Duplicate Sample Summary

Client: Kleinfelder
Project: Webster School
Client ID: MH-731DUP

SDG No.: P4852
Sample ID: P4833-01
Percent Solids for Spike Sample: 86.3

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	+/-20	0.090	U	0.090	U	1	0		11/15/2024

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Duplicate Sample Summary

Client: Kleinfelder
Project: Webster School
Client ID: COMP-1DUP
SDG No.: P4852
Sample ID: P4852-01
Percent Solids for Spike Sample: 83.2

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Ammonia as N	mg/Kg	+/-20	1.10	U	1.10	U	1	0		11/19/2024

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Duplicate Sample Summary

Client: Kleinfelder
Project: Webster School
Client ID: COMP-1MSD
SDG No.: P4852
Sample ID: P4852-01
Percent Solids for Spike Sample: 83.2

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Bromide	mg/Kg	+/-15	254		254		1	0		11/15/2024
Chloride	mg/Kg	+/-15	137		137		1	0		11/15/2024
Nitrate	mg/Kg	+/-15	64.4		64.5		1	0		11/15/2024
Nitrite	mg/Kg	+/-15	76.2		76.2		1	0		11/15/2024
Sulfate	mg/Kg	+/-15	405		405		1	0		11/15/2024
Fluoride	mg/Kg	+/-15	47.1		47.6		1	1		11/15/2024
Orthophosphate as P	mg/Kg	+/-15	88.3		86.1		1	3		11/15/2024
Ammonia as N	mg/Kg	+/-20	58.9		60.8		1	3		11/19/2024

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Laboratory Control Sample Summary

Client: Kleinfelder **SDG No.:** P4852

Project: Webster School **Run No.:** LB133508

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB133508BSS								
Bromide	mg/Kg	200	210		105	1	90-110	11/15/2024
Chloride	mg/Kg	60	62.7		104	1	90-110	11/15/2024
Fluoride	mg/Kg	40	42.2		106	1	90-110	11/15/2024
Nitrite	mg/Kg	60	62.9		105	1	90-110	11/15/2024
Nitrate	mg/Kg	50	52.5		105	1	90-110	11/15/2024
Sulfate	mg/Kg	300	310		103	1	90-110	11/15/2024
Orthophosphate as P	mg/Kg	100	104		104	1	90-110	11/15/2024

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Laboratory Control Sample Summary

Client: Kleinfelder **SDG No.:** P4852

Project: Webster School **Run No.:** LB133468

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID PB164961BS								
Hexavalent Chromium	mg/Kg	20	20.0		100	1	84-110	11/15/2024

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Laboratory Control Sample Summary

Client: Kleinfelder **SDG No.:** P4852

Project: Webster School **Run No.:** LB133520

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID PB165004BS								
Ammonia as N	mg/Kg	50	51.0		102	1	90-110	11/19/2024

Alliance
TECHNICAL GROUP

RAW DATA

Analytical Summary Report

Analysis Method: ~~7196A~~

Parameter: ~~Hexavalent Chromium~~

Run Number: ~~LB133468~~

ANALYST: rubina

SUPERVISOR REVIEW BY: Iwona

pH Meter ID: WC pH Meter-1

Reagent/Standard	Lot/Log #
hexavalent chromium color reagent	WP110722
5N sulfuric acid	WP110380
HNO3 Hex-Chrome, 5M	WP110381
Hexchrome Cleaning Solution	WP108645

Intercept: 0.0015 **Slope:** 0.7659 **Regression:** 0.999996

Seq	Lab ID	True Value (mg/l)	DF	Initial Vol (ml)	Final Vol (ml)	pH HN03	pH H2SO4	Absorb.at 540nm		Absorbance Difference	Result (mg/L)	%D	Anal Date	Anal Time
								Backgrnd	Color					
1	CAL1	0	1	100	100	7.25	1.73	0.000	0.000	0.000	-0.00		11/15/2024	12:30
2	CAL2	0.01	1	100	100	7.36	1.85	0.000	0.009	0.009	0.009	-10	11/15/2024	12:31
3	CAL3	0.025	1	100	100	7.34	1.89	0.000	0.021	0.021	0.025	0	11/15/2024	12:32
4	CAL4	0.05	1	100	100	7.38	1.88	0.000	0.040	0.040	0.050	0	11/15/2024	12:33
5	CAL5	0.1	1	100	100	7.36	1.86	0.000	0.079	0.079	0.101	1	11/15/2024	12:34
6	CAL6	0.5	1	100	100	7.39	1.88	0.000	0.385	0.385	0.500	0	11/15/2024	13:35
7	CAL7	1	1	100	100	7.39	1.90	0.000	0.767	0.767	0.999	-0.1	11/15/2024	12:36

Reviewed By:Iwona
On:11/22/2024
11:43:45 AM
Inst Id
:SPECTROPHOTOME

Analytical Summary Report

Analysis Method: 7196A
ANALYST: rubina

Parameter: Hexavalent Chromium
SUPERVISOR REVIEW BY: Iwona

Run Number: LB133468
pH Meter ID: WC pH Meter-1

Seq	Lab ID	True Value	DF	Initial Vol (ml/gm)	Final Vol (ml)	pH HN03	pH H2SO4	Absorb.at540nm		Absorbance Difference	Intermediate Result (mg/L)	Anal Date	Anal Time
								Backgrnd	Color				
1	ICV	0.5	1	100	100	7.35	1.92	0.000	0.383	0.383	0.498	11/15/2024	12:37
2	ICB		1	100	100	7.27	1.76	0.000	0.001	0.001	-0.001	11/15/2024	12:38
3	CCV1	0.5	1	100	100	7.43	1.93	0.000	0.386	0.386	0.502	11/15/2024	12:39
4	CCB1		1	100	100	7.29	1.80	0.000	0.001	0.001	-0.001	11/15/2024	12:40
5	RL Check	0.01	1	100	100	7.41	1.92	0.000	0.010	0.010	0.011	11/15/2024	12:41
6	PB164961BL		1	2.50	100	7.26	1.80	0.000	0.001	0.001	-0.001	11/15/2024	12:42
7	PB164961BS	20	1	2.50	100	7.44	1.95	0.000	0.384	0.384	0.499	11/15/2024	12:43
8	P4833-01		1	2.53	100	7.53	2.04	0.001	0.002	0.001	-0.001	11/15/2024	12:44
9	P4833-01DU		1	2.54	100	7.55	2.06	0.001	0.002	0.001	-0.001	11/15/2024	12:45
10	P4833-01MS	40	2	2.53	100	7.54	2.06	0.000	0.319	0.319	0.415	11/15/2024	12:46
11	P4833-01MS	1284	40	2.53	100	7.55	2.10	0.000	0.612	0.612	0.797	11/15/2024	12:47
12	P4833-01MS	40	2	2.54	100	7.57	2.10	0.000	0.379	0.379	0.493	11/15/2024	12:48
13	P4833-05		1	2.51	100	7.58	2.14	0.001	0.002	0.001	-0.001	11/15/2024	12:49
14	P4848-01		1	2.51	100	7.63	2.10	0.004	0.005	0.001	-0.001	11/15/2024	12:50
15	P4849-01		1	2.54	100	7.65	2.18	0.008	0.008	0.000	-0.002	11/15/2024	12:51
16	CCV2	0.5	1	100	100	7.45	1.92	0.000	0.385	0.385	0.501	11/15/2024	12:52
17	CCB2		1	100	100	7.24	1.77	0.000	0.000	0.000	-0.002	11/15/2024	12:53
18	P4851-01		1	2.51	100	7.59	2.10	0.037	0.038	0.001	-0.001	11/15/2024	12:54
19	P4852-01		1	2.51	100	7.52	2.20	0.006	0.007	0.001	-0.001	11/15/2024	12:55
20	P4852-02		1	2.54	100	7.54	2.10	0.012	0.012	0.000	-0.002	11/15/2024	12:56
21	P4852-03		1	2.53	100	7.52	2.22	0.010	0.010	0.000	-0.002	11/15/2024	12:57
22	P4859-01		1	2.52	100	7.60	2.20	0.005	0.006	0.001	-0.001	11/15/2024	12:58
23	P4870-01		1	2.55	100	7.60	2.16	0.036	0.037	0.001	-0.001	11/15/2024	12:59
24	P4870-04		1	2.54	100	7.66	2.10	0.034	0.035	0.001	-0.001	11/15/2024	13:00
25	P4870-07		1	2.51	100	7.67	2.16	0.034	0.035	0.001	-0.001	11/15/2024	13:01
26	P4870-10		1	2.52	100	7.64	2.12	0.037	0.038	0.001	-0.001	11/15/2024	13:02
27	CCV3	0.5	1	100	100	7.42	1.93	0.000	0.383	0.383	0.498	11/15/2024	13:03
28	CCB3		1	100	100	7.29	1.74	0.000	0.000	0.000	-0.002	11/15/2024	13:04

Instrument I IC-1 Analyst : NF Method: 00.0 / 9056A

Ident	Con F-	Con CL-	Con NO2	Con BR-	Con NO3	Con HPO4	Con SO4	Method name	date time	Initial wt/Final Vol	Analyst
STD1	0	0	0	0	0	0	0	IC1-101624	10/16/2024 10:55	10	NF/IZ
STD2	0.424	0.632	0.639	2.106	0.535	1.072	3.276	IC1-101624	10/16/2024 11:17	10	NF/IZ
STD3	0.796	1.206	1.205	4.013	1	2	6.052	IC1-101624	10/16/2024 11:38	10	NF/IZ
STD4	1.032	1.537	1.531	5.116	1.277	2.557	7.662	IC1-101624	10/16/2024 11:59	10	NF/IZ
STD5	1.966	2.927	2.921	9.77	2.439	4.871	14.51	IC1-101624	10/16/2024 12:21	10	NF/IZ
STD6	3.88	5.901	5.91	19.683	4.912	9.831	29.286	IC1-101624	10/16/2024 12:42	10	NF/IZ
STD7	5.102	7.598	7.593	25.312	6.337	12.67	37.714	IC1-101624	10/16/2024 13:04	10	NF/IZ
ICV	1.966	2.997	3	9.969	2.497	4.753	14.85	IC1-101624	10/16/2024 13:37	10	NF/IZ
ICB	0	0	0	0	0	0	0	IC1-101624	10/16/2024 13:59	10	NF/IZ
CCV	2.107	3.13	3.14	10.491	2.628	5.216	15.537	IC1-101624	11/15/2024 16:09	10	NF/IZ
CCB	0	0.074	0	0	0	0	0	IC1-101624	11/15/2024 16:31	10	NF/IZ
LB133508BLS	0	0	0	0	0	0	0	IC1-101624	11/15/2024 16:52	5.00g/100ML	NF/IZ
LB133508BSS	2.108	3.133	3.146	10.506	2.627	5.215	15.515	IC1-101624	11/15/2024 17:14	5.00g/100ML	NF/IZ
P4852-01	0.28	1.864	0	0	0.096	0.366	1.715	IC1-101624	11/15/2024 17:35	5.01g/100ML	NF/IZ
P4852-01MS	1.964	5.691	3.177	10.599	2.686	3.681	16.886	IC1-101624	11/15/2024 17:57	5.01g/100ML	NF/IZ
P4852-01MSD	1.985	5.714	3.178	10.603	2.69	3.589	16.873	IC1-101624	11/15/2024 18:18	5.01g/100ML	NF/IZ
P4852-02	0.321	1.488	0	0	0	0.235	1.195	IC1-101624	11/15/2024 18:40	5.04g/100ML	NF/IZ
P4852-03	0.406	2.886	0	0	0.173	0.342	3.033	IC1-101624	11/15/2024 19:01	5.02g/100ML	NF/IZ
CCV	2.107	3.14	3.145	10.519	2.628	5.214	15.531	IC1-101624	11/15/2024 19:23	10	NF/IZ
CCB	0	0	0	0	0	0	0	IC1-101624	11/15/2024 19:44	10	NF/IZ

Clear table

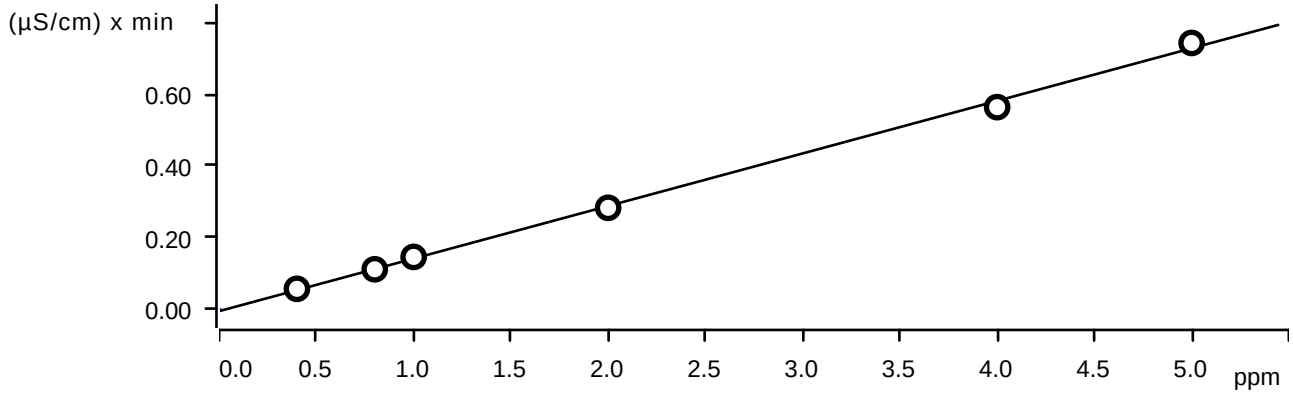
Instrument ID: IC-2 Analyst : IZ Method: 300.0 / 9056A

ident	concentration F-	concentration CL-	concentration NO2	concentration BR-	concentration NO3	concentration HPO4	concentration SO4	file name	date time	Initial wt/ Final	Analyst
STD1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	IC1-101624	10/16/2024 10:55	10	NF/IZ
STD2	0.424	0.632	0.639	2.106	0.535	1.072	3.276	IC1-101624	10/16/2024 11:17	10	NF/IZ
STD3	0.796	1.206	1.205	4.013	1.000	2.000	6.052	IC1-101624	10/16/2024 11:38	10	NF/IZ
STD4	1.032	1.537	1.531	5.116	1.277	2.557	7.662	IC1-101624	10/16/2024 11:59	10	NF/IZ
STD5	1.966	2.927	2.921	9.77	2.439	4.871	14.51	IC1-101624	10/16/2024 12:21	10	NF/IZ
STD6	3.88	5.901	5.91	19.683	4.912	9.831	29.286	IC1-101624	10/16/2024 12:42	10	NF/IZ
STD7	5.102	7.598	7.593	25.312	6.337	12.67	37.714	IC1-101624	10/16/2024 13:04	10	NF/IZ

ident	True Value F-	True Value CL-	True Value NO2	True Value BR-	True Value NO3	True Value HPO4	True Value SO4
STD1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD2	0.4000	0.6000	0.6000	2.0000	0.5000	1.0000	3.0000
STD3	0.8000	1.2000	1.2000	4.0000	1.0000	2.0000	6.0000
STD4	1.0000	1.5000	1.5000	5.0000	1.2500	2.5000	7.5000
STD5	2.0000	3.0000	3.0000	10.0000	2.5000	5.0000	15.0000
STD6	4.0000	6.0000	6.0000	20.0000	5.0000	10.0000	30.0000
STD7	5.0000	7.5000	7.5000	25.0000	6.2500	12.5000	37.0000

ident	Relative Error F-	Relative Error CL-	Relative Error NO2	Relative Error BR-	Relative Error NO3	Relative Error HPO4	Relative Error SO4
STD1							
STD2	6.0000	5.3333	6.5000	5.3000	7.0000	7.2000	9.2000
STD3	-0.5000	0.5000	0.4167	0.3250	0.0000	0.0000	0.8667
STD4	3.2000	2.4667	2.0667	2.3200	2.1600	2.2800	2.1600
STD5	-1.7000	-2.4333	-2.6333	-2.3000	-2.4400	-2.5800	-3.2667
STD6	-3.0000	-1.6500	-1.5000	-1.5850	-1.7600	-1.6900	-2.3800
STD7	2.0400	1.3067	1.2400	1.2480	1.3920	1.3600	1.9297

Fluoride (Anions)



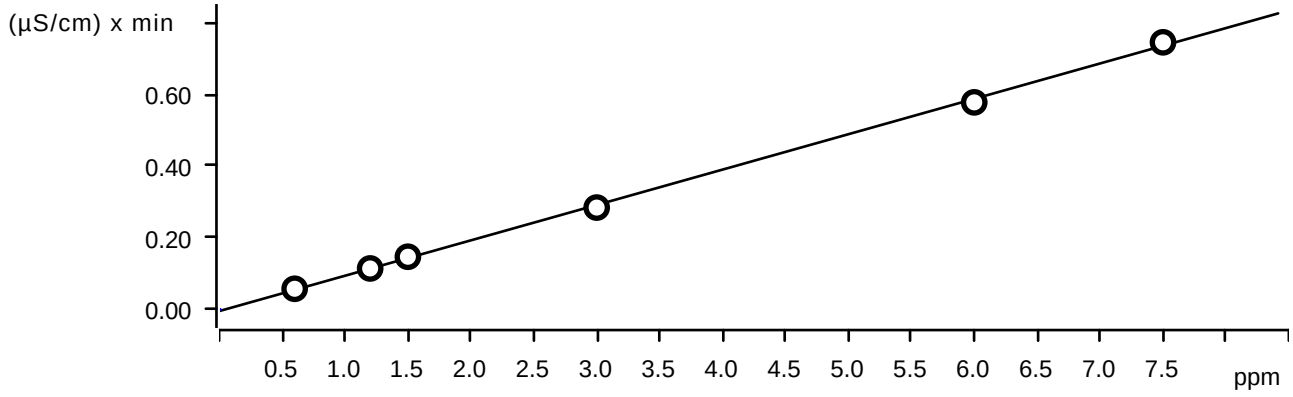
Function: . . . . . *A = - 5.06114E-3 + 0.0146570× Q*

Relative standard deviation . . . . . *3.824450 %*

Correlation coefficient *0.999229*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-10-16 10:55:46 UTC-4	used
Standard 2	1	0.400	10.0	1.0	1.0	0.057	STD2	2024-10-16 11:17:08 UTC-4	used
Standard 3	1	0.800	10.0	1.0	1.0	0.112	STD3	2024-10-16 11:38:32 UTC-4	used
Standard 4	1	1.000	10.0	1.0	1.0	0.146	STD4	2024-10-16 11:59:57 UTC-4	used
Standard 5	1	2.000	10.0	1.0	1.0	0.283	STD5	2024-10-16 12:21:22 UTC-4	used
Standard 6	1	4.000	10.0	1.0	1.0	0.564	STD6	2024-10-16 12:42:48 UTC-4	used
Standard 7	1	5.000	10.0	1.0	1.0	0.743	STD7	2024-10-16 13:04:15 UTC-4	used

Chloride (Anions)



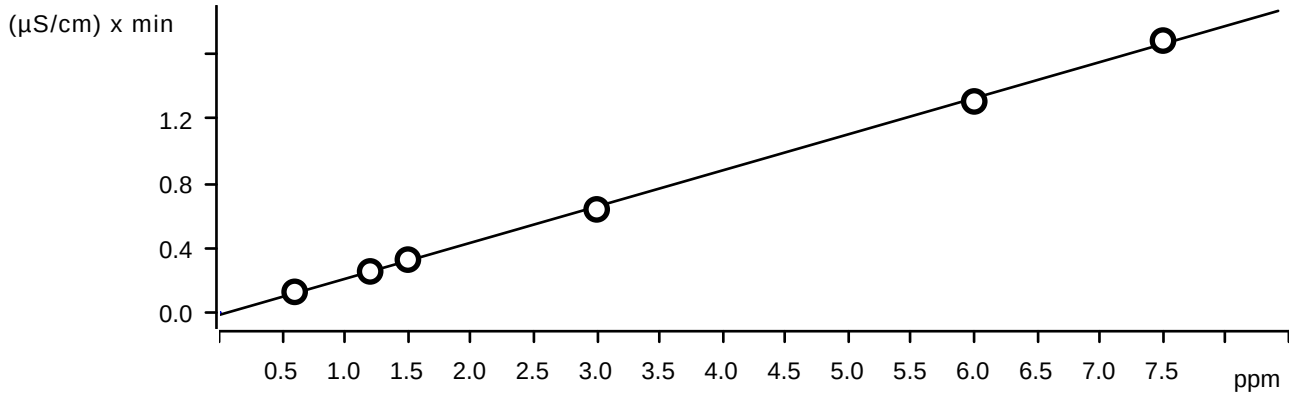
Function: . . . . . *A = - 4.66155E-3 + 9.86442E-3× Q*

Relative standard deviation . . . . . *2.532075 %*

Correlation coefficient *0.999661*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-10-16 10:55:46 UTC-4	used
Standard 2	1	0.600	10.0	1.0	1.0	0.058	STD2	2024-10-16 11:17:08 UTC-4	used
Standard 3	1	1.200	10.0	1.0	1.0	0.114	STD3	2024-10-16 11:38:32 UTC-4	used
Standard 4	1	1.500	10.0	1.0	1.0	0.147	STD4	2024-10-16 11:59:57 UTC-4	used
Standard 5	1	3.000	10.0	1.0	1.0	0.284	STD5	2024-10-16 12:21:22 UTC-4	used
Standard 6	1	6.000	10.0	1.0	1.0	0.577	STD6	2024-10-16 12:42:48 UTC-4	used
Standard 7	1	7.500	10.0	1.0	1.0	0.745	STD7	2024-10-16 13:04:15 UTC-4	used

Nitrite (Anions)



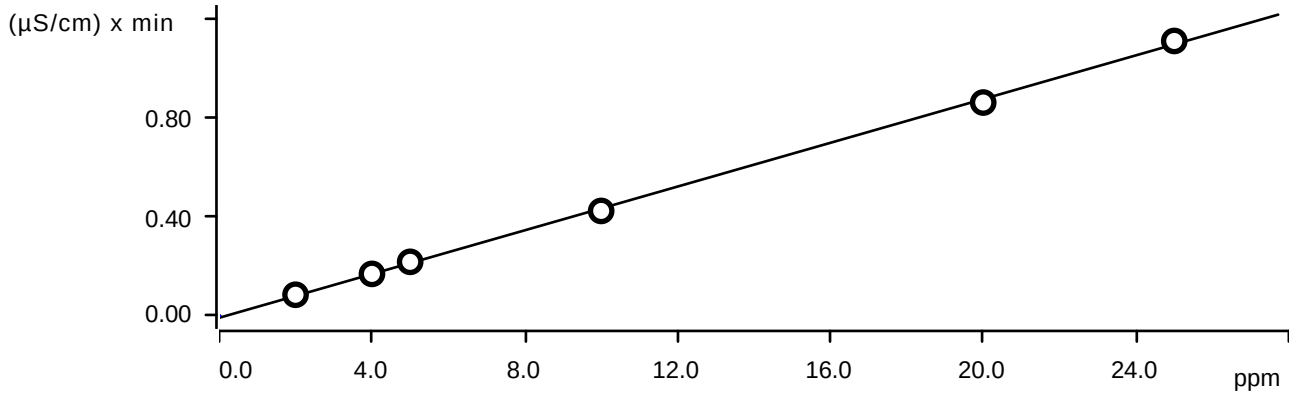
Function: . . . . . *A = - 0.0158639 + 0.0223869× Q*

Relative standard deviation . . . . . *2.476730 %*

Correlation coefficient *0.999680*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-10-16 10:55:46 UTC-4	used
Standard 2	1	0.600	10.0	1.0	1.0	0.127	STD2	2024-10-16 11:17:08 UTC-4	used
Standard 3	1	1.200	10.0	1.0	1.0	0.254	STD3	2024-10-16 11:38:32 UTC-4	used
Standard 4	1	1.500	10.0	1.0	1.0	0.327	STD4	2024-10-16 11:59:57 UTC-4	used
Standard 5	1	3.000	10.0	1.0	1.0	0.638	STD5	2024-10-16 12:21:22 UTC-4	used
Standard 6	1	6.000	10.0	1.0	1.0	1.307	STD6	2024-10-16 12:42:48 UTC-4	used
Standard 7	1	7.500	10.0	1.0	1.0	1.684	STD7	2024-10-16 13:04:15 UTC-4	used

Bromide (Anions)



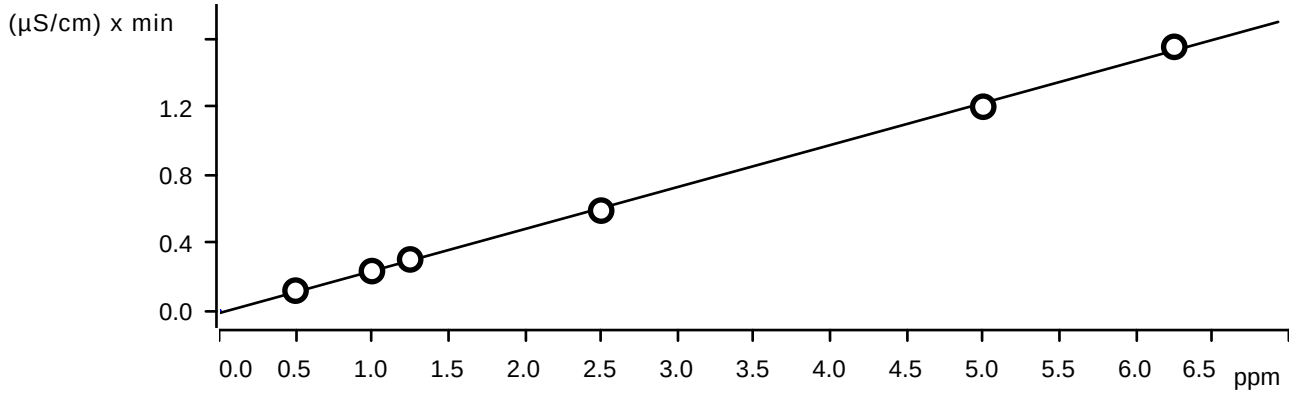
Function: . . . . . *A = - 7.83486E-3 + 4.40426E-3× Q*

Relative standard deviation . . . . . *2.425045 %*

Correlation coefficient *0.999690*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-10-16 10:55:46 UTC-4	used
Standard 2	1	2.000	10.0	1.0	1.0	0.085	STD2	2024-10-16 11:17:08 UTC-4	used
Standard 3	1	4.000	10.0	1.0	1.0	0.169	STD3	2024-10-16 11:38:32 UTC-4	used
Standard 4	1	5.000	10.0	1.0	1.0	0.217	STD4	2024-10-16 11:59:57 UTC-4	used
Standard 5	1	10.000	10.0	1.0	1.0	0.422	STD5	2024-10-16 12:21:22 UTC-4	used
Standard 6	1	20.000	10.0	1.0	1.0	0.859	STD6	2024-10-16 12:42:48 UTC-4	used
Standard 7	1	25.000	10.0	1.0	1.0	1.107	STD7	2024-10-16 13:04:15 UTC-4	used

Nitrate (Anions)



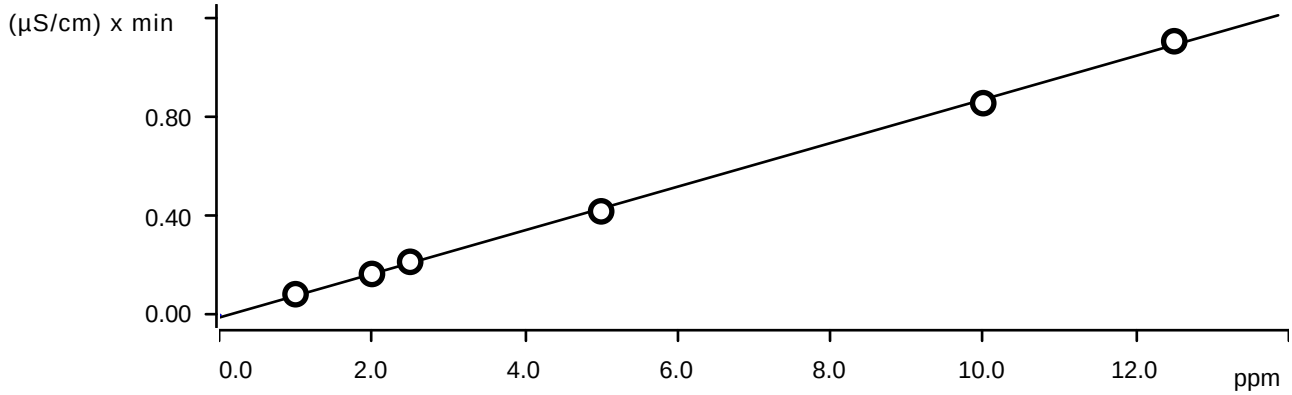
Function: . . . . . *A = - 0.0159932 + 0.0247327× Q*

Relative standard deviation . . . . . *2.693966 %*

Correlation coefficient *0.999623*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-10-16 10:55:46 UTC-4	used
Standard 2	1	0.500	10.0	1.0	1.0	0.116	STD2	2024-10-16 11:17:08 UTC-4	used
Standard 3	1	1.000	10.0	1.0	1.0	0.231	STD3	2024-10-16 11:38:32 UTC-4	used
Standard 4	1	1.250	10.0	1.0	1.0	0.300	STD4	2024-10-16 11:59:57 UTC-4	used
Standard 5	1	2.500	10.0	1.0	1.0	0.587	STD5	2024-10-16 12:21:22 UTC-4	used
Standard 6	1	5.000	10.0	1.0	1.0	1.199	STD6	2024-10-16 12:42:48 UTC-4	used
Standard 7	1	6.250	10.0	1.0	1.0	1.551	STD7	2024-10-16 13:04:15 UTC-4	used

Phosphate (Anions)



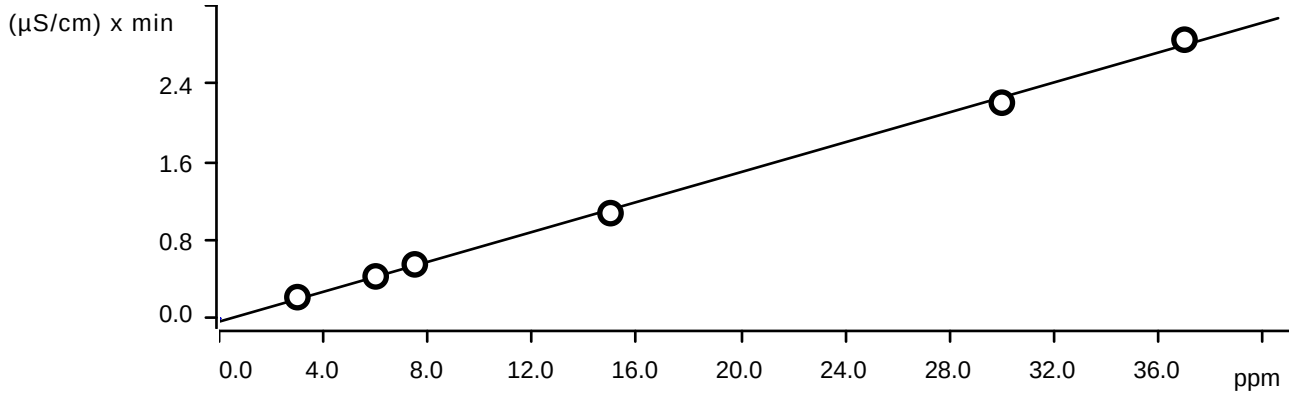
Function: . . . . . *A = - 9.96170E-3 + 8.78405E-3× Q*

Relative standard deviation . . . . . *2.667639 %*

Correlation coefficient *0.999628*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-10-16 10:55:46 UTC-4	used
Standard 2	1	1.000	10.0	1.0	1.0	0.084	STD2	2024-10-16 11:17:08 UTC-4	used
Standard 3	1	2.000	10.0	1.0	1.0	0.166	STD3	2024-10-16 11:38:32 UTC-4	used
Standard 4	1	2.500	10.0	1.0	1.0	0.215	STD4	2024-10-16 11:59:57 UTC-4	used
Standard 5	1	5.000	10.0	1.0	1.0	0.418	STD5	2024-10-16 12:21:22 UTC-4	used
Standard 6	1	10.000	10.0	1.0	1.0	0.854	STD6	2024-10-16 12:42:48 UTC-4	used
Standard 7	1	12.500	10.0	1.0	1.0	1.103	STD7	2024-10-16 13:04:15 UTC-4	used

Sulfate (Anions)



Function: . . . . . *A = - 0.0322401 + 7.64234E-3× Q*

Relative standard deviation . . . . . *3.651427 %*

Correlation coefficient *0.999303*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2024-10-16 10:55:46 UTC-4	used
Standard 2	1	3.000	10.0	1.0	1.0	0.218	STD2	2024-10-16 11:17:08 UTC-4	used
Standard 3	1	6.000	10.0	1.0	1.0	0.430	STD3	2024-10-16 11:38:32 UTC-4	used
Standard 4	1	7.500	10.0	1.0	1.0	0.553	STD4	2024-10-16 11:59:57 UTC-4	used
Standard 5	1	15.000	10.0	1.0	1.0	1.077	STD5	2024-10-16 12:21:22 UTC-4	used
Standard 6	1	30.000	10.0	1.0	1.0	2.206	STD6	2024-10-16 12:42:48 UTC-4	used
Standard 7	1	37.000	10.0	1.0	1.0	2.850	STD7	2024-10-16 13:04:15 UTC-4	used

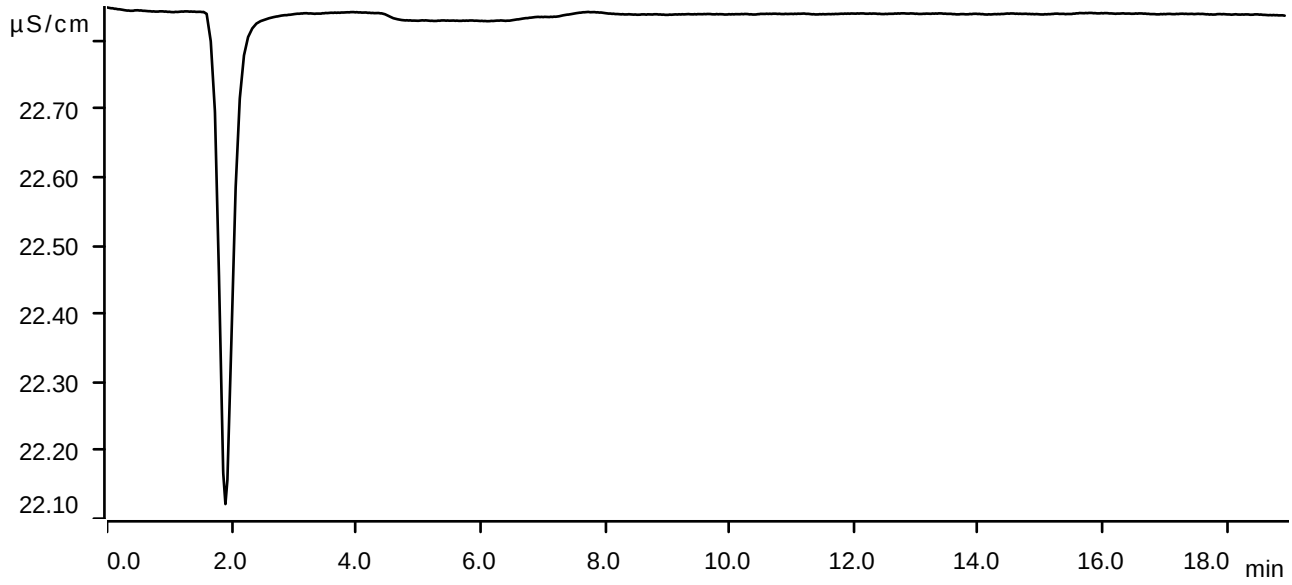
Sample data

Ident	STD1
Sample type	Standard 1
Determination start	2024-10-16 10:55:46 UTC-4
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.33	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Metrohm

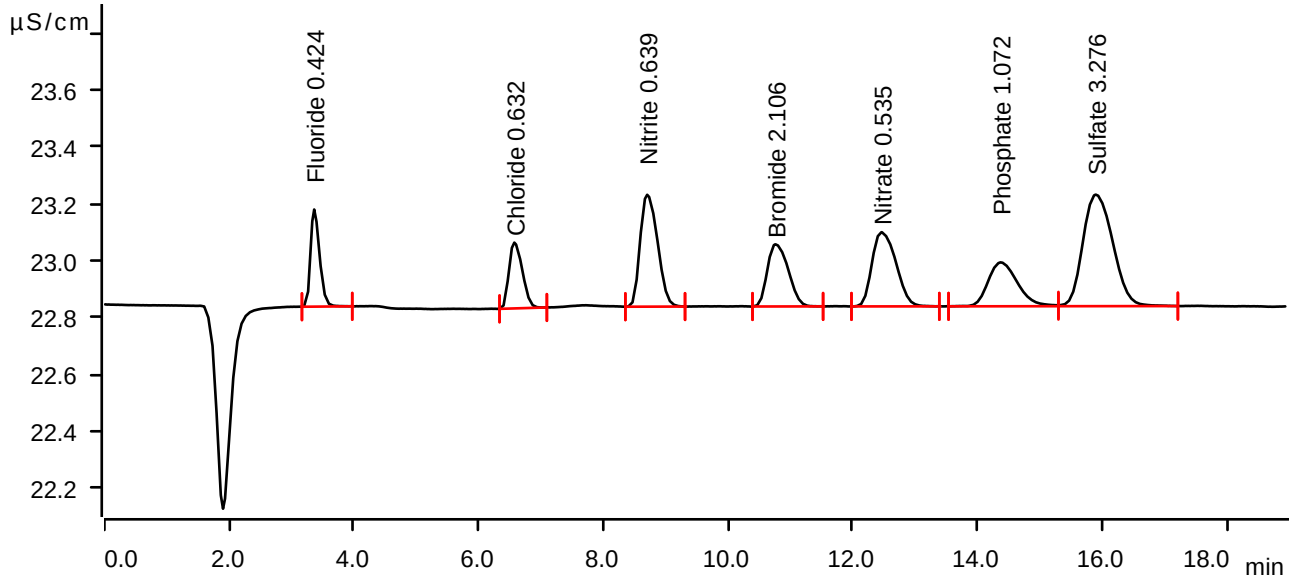
Sample data

Ident	STD2
Sample type	Standard 2
Determination start	2024-10-16 11:17:08 UTC-4
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.56	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.365	0.0571	0.341	0.424	Fluoride
2	6.573	0.0576	0.231	0.632	Chloride
3	8.703	0.1273	0.393	0.639	Nitrite
4	10.758	0.0849	0.219	2.106	Bromide
5	12.458	0.1163	0.261	0.535	Nitrate
6	14.368	0.0842	0.154	1.072	Phosphate
7	15.893	0.2181	0.392	3.276	Sulfate

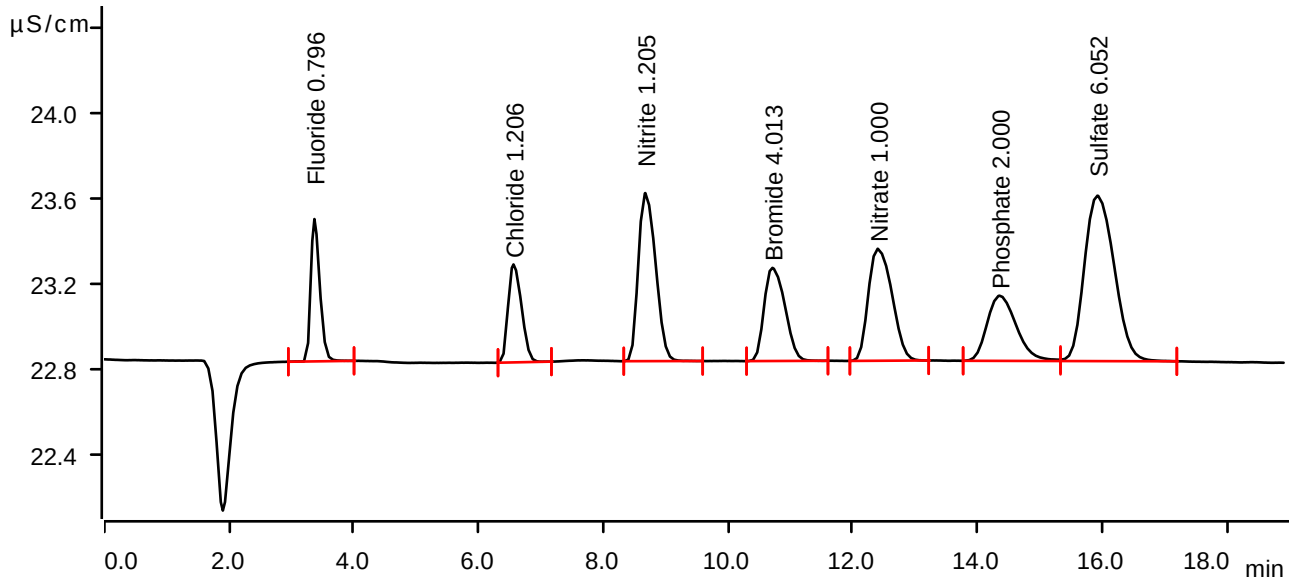
Sample data

Ident	STD3
Sample type	Standard 3
Determination start	2024-10-16 11:38:32 UTC-4
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.11	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.368	0.1116	0.667	0.796	Fluoride
2	6.560	0.1143	0.459	1.206	Chloride
3	8.673	0.2538	0.788	1.205	Nitrite
4	10.712	0.1689	0.436	4.013	Bromide
5	12.398	0.2314	0.525	1.000	Nitrate
6	14.353	0.1657	0.305	2.000	Phosphate
7	15.922	0.4302	0.775	6.052	Sulfate

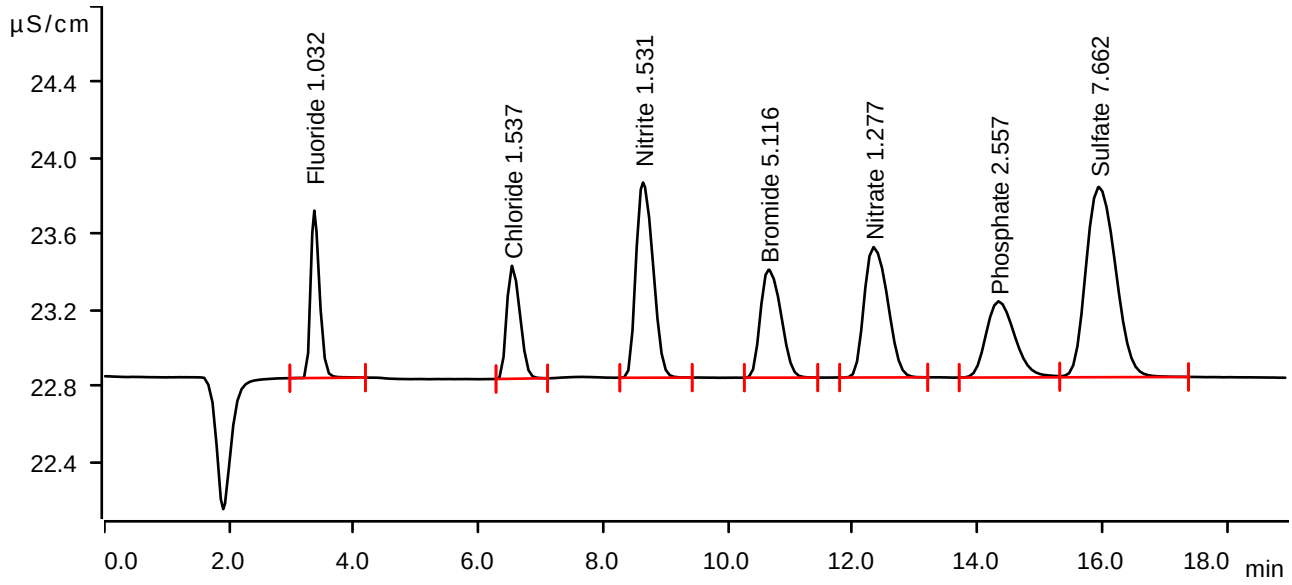
Sample data

Ident	STD4
Sample type	Standard 4
Determination start	2024-10-16 11:59:57 UTC-4
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	11.94	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.367	0.1462	0.882	1.032	Fluoride
2	6.537	0.1469	0.595	1.537	Chloride
3	8.637	0.3270	1.029	1.531	Nitrite
4	10.650	0.2175	0.569	5.116	Bromide
5	12.332	0.2999	0.687	1.277	Nitrate
6	14.337	0.2147	0.401	2.557	Phosphate
7	15.945	0.5533	1.003	7.662	Sulfate

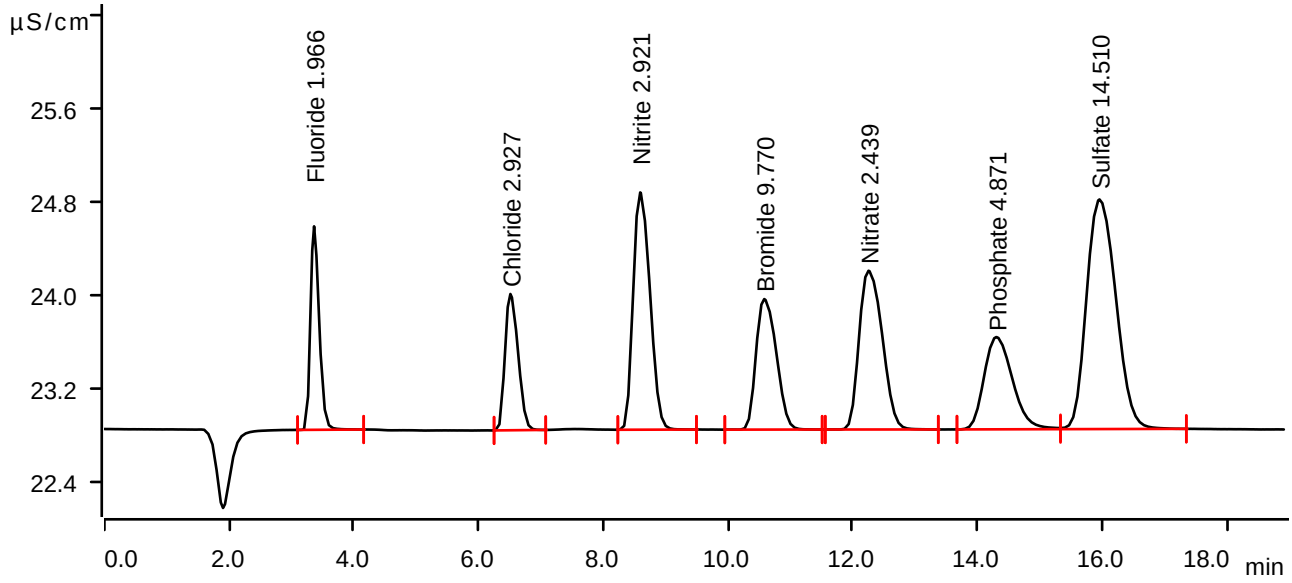
Sample data

Ident	STD5
Sample type	Standard 5
Determination start	2024-10-16 12:21:22 UTC-4
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	11.99	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.363	0.2831	1.748	1.966	Fluoride
2	6.510	0.2841	1.170	2.927	Chloride
3	8.592	0.6381	2.038	2.921	Nitrite
4	10.580	0.4225	1.121	9.770	Bromide
5	12.252	0.5873	1.364	2.439	Nitrate
6	14.302	0.4179	0.793	4.871	Phosphate
7	15.955	1.0767	1.972	14.510	Sulfate

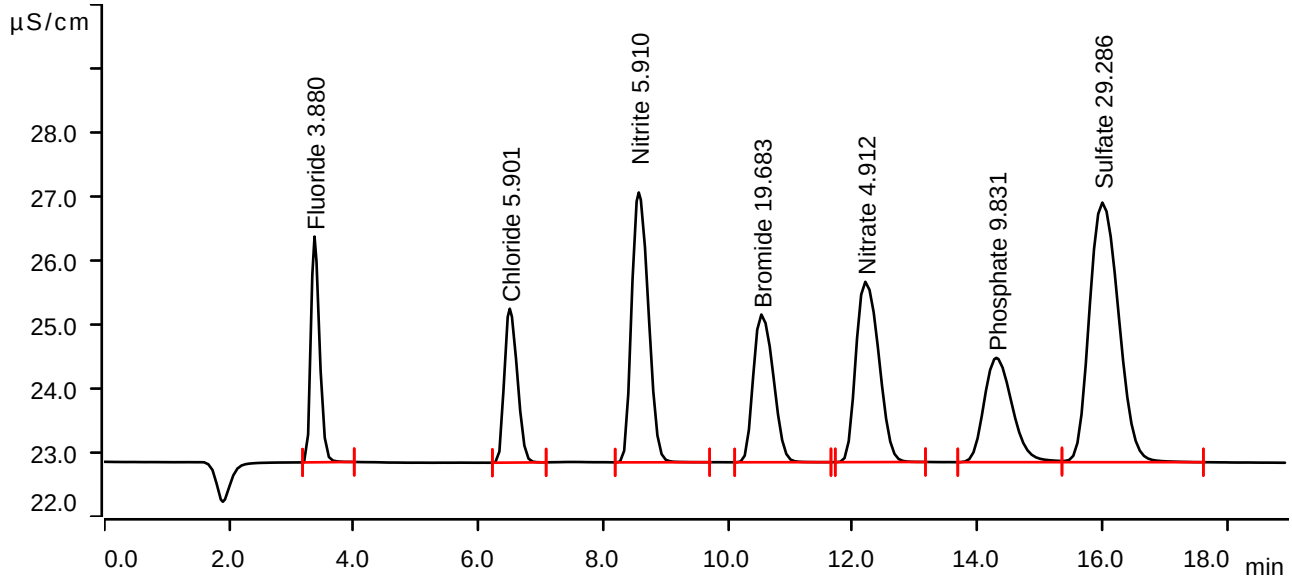
Sample data

Ident	STD6
Sample type	Standard 6
Determination start	2024-10-16 12:42:48 UTC-4
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	11.88	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.370	0.5637	3.525	3.880	Fluoride
2	6.500	0.5774	2.404	5.901	Chloride
3	8.568	1.3072	4.215	5.910	Nitrite
4	10.535	0.8590	2.306	19.683	Bromide
5	12.202	1.1988	2.815	4.912	Nitrate
6	14.302	0.8536	1.629	9.831	Phosphate
7	16.002	2.2059	4.054	29.286	Sulfate

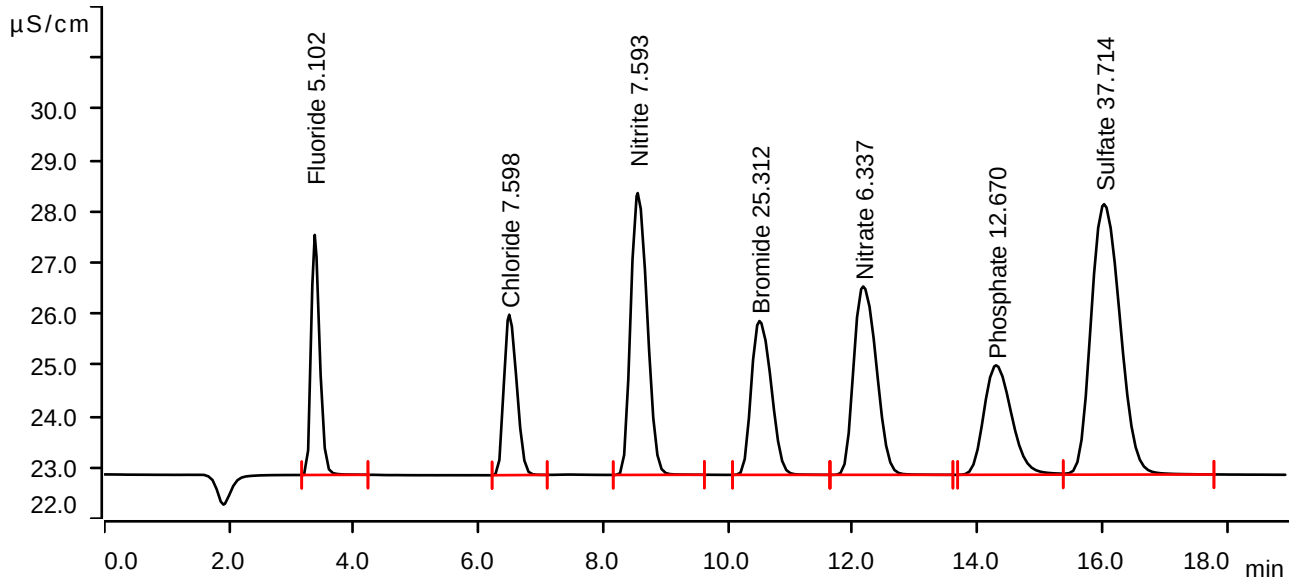
Sample data

Ident	STD7
Sample type	Standard 7
Determination start	2024-10-16 13:04:15 UTC-4
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.73	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.373	0.7427	4.687	5.102	Fluoride
2	6.492	0.7448	3.132	7.598	Chloride
3	8.552	1.6841	5.502	7.593	Nitrite
4	10.503	1.1070	3.003	25.312	Bromide
5	12.167	1.5512	3.678	6.337	Nitrate
6	14.297	1.1030	2.137	12.670	Phosphate
7	16.028	2.8500	5.280	37.714	Sulfate

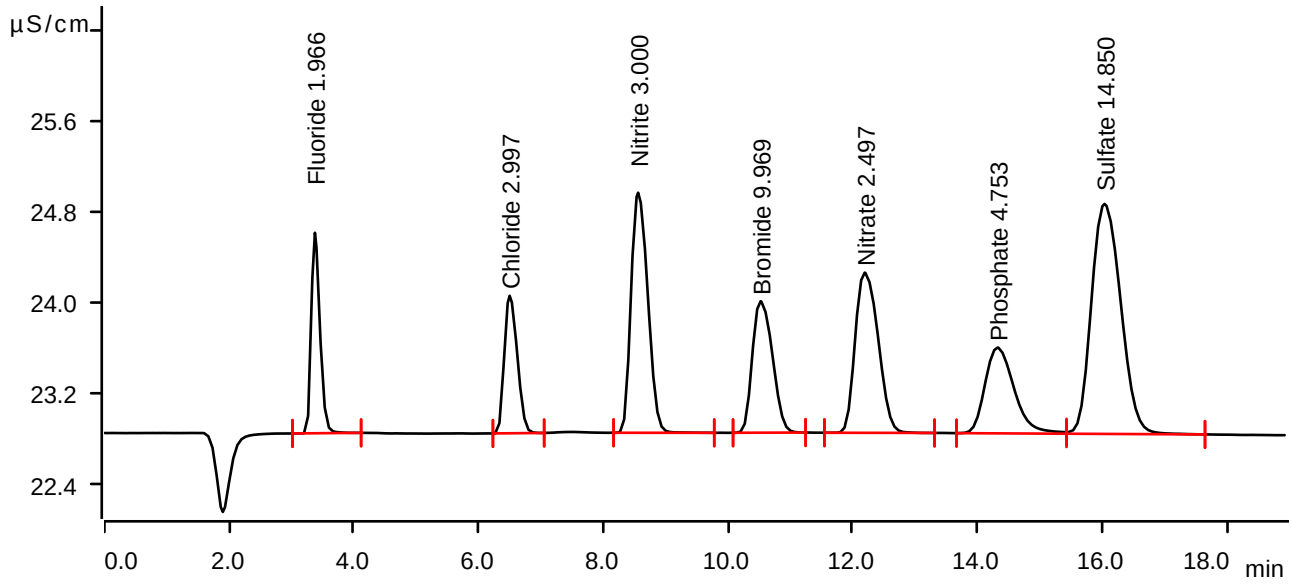
Sample data

Ident	ICV
Sample type	Check standard 1
Determination start	2024-10-16 13:37:49 UTC-4
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	11.66	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.377	0.2830	1.762	1.966	Fluoride
2	6.498	0.2910	1.209	2.997	Chloride
3	8.558	0.6557	2.109	3.000	Nitrite
4	10.522	0.4312	1.155	9.969	Bromide
5	12.190	0.6017	1.407	2.497	Nitrate
6	14.320	0.4076	0.753	4.753	Phosphate
7	16.035	1.1027	2.020	14.850	Sulfate

Metrohm

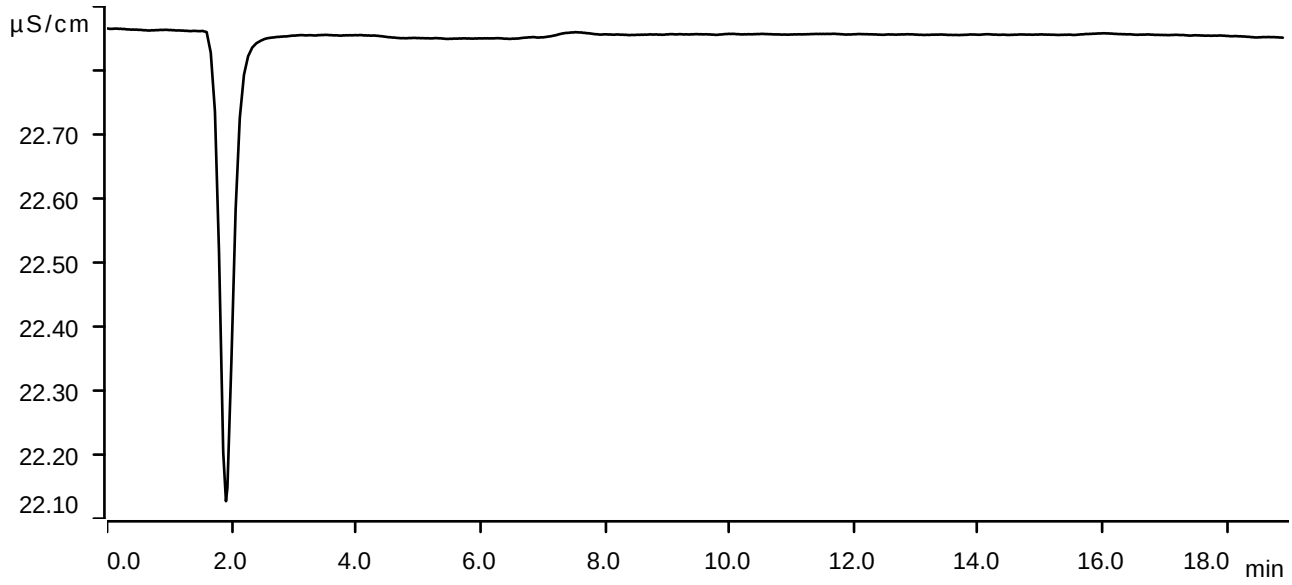
Sample data

Ident	ICB
Sample type	Sample
Determination start	2024-10-16 13:59:18 UTC-4
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	11.60	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



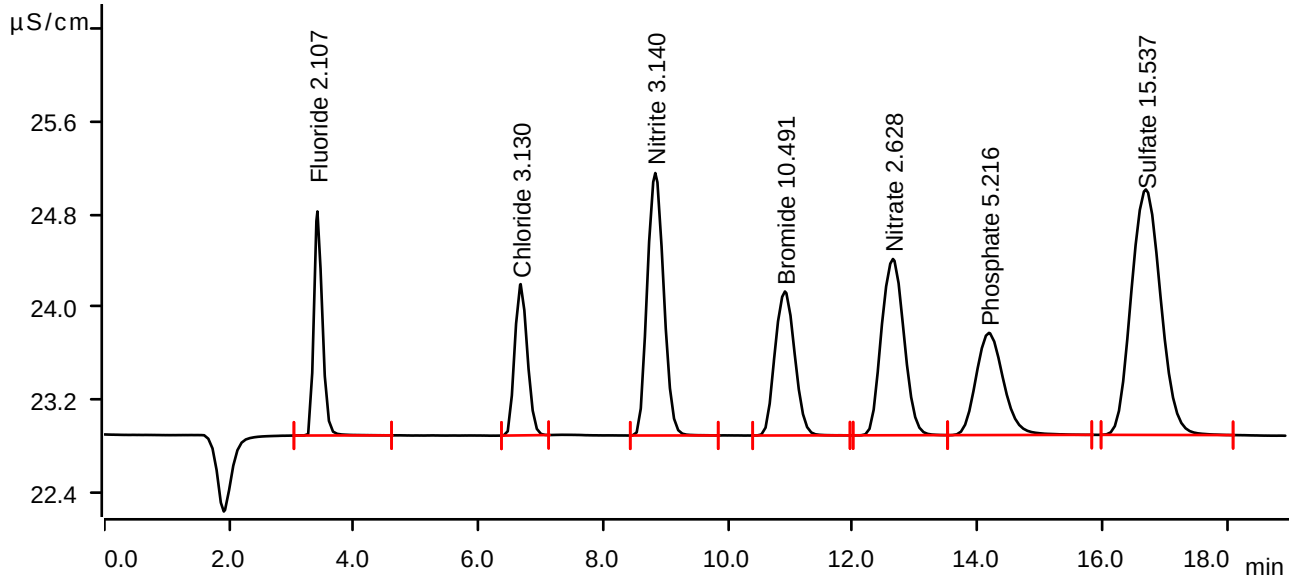
Sample data

Ident	CCV
Sample type	Check standard 1
Determination start	2024-11-15 16:09:50 UTC-5
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.16	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.417	0.3038	1.924	2.107	Fluoride
2	6.675	0.3041	1.299	3.130	Chloride
3	8.833	0.6871	2.254	3.140	Nitrite
4	10.912	0.4542	1.237	10.491	Bromide
5	12.643	0.6341	1.514	2.628	Nitrate
6	14.183	0.4482	0.878	5.216	Phosphate
7	16.698	1.1551	2.109	15.537	Sulfate

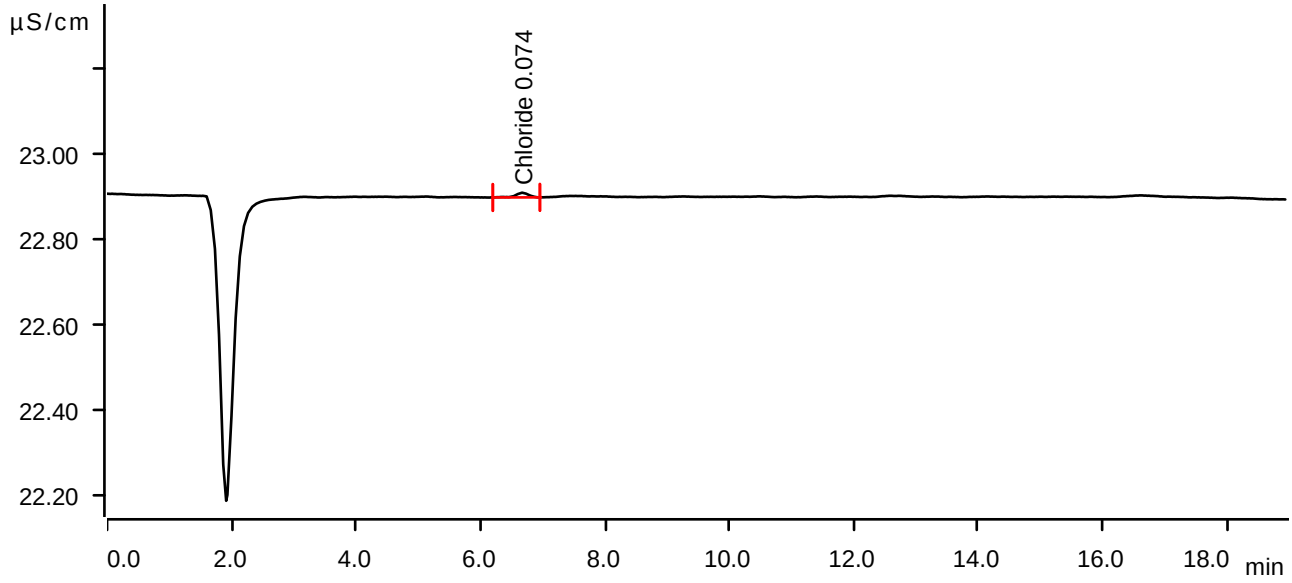
Sample data

Ident	CCB
Sample type	Sample
Determination start	2024-11-15 16:31:20 UTC-5
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.16	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	6.672	0.0026	0.011	0.074	Chloride

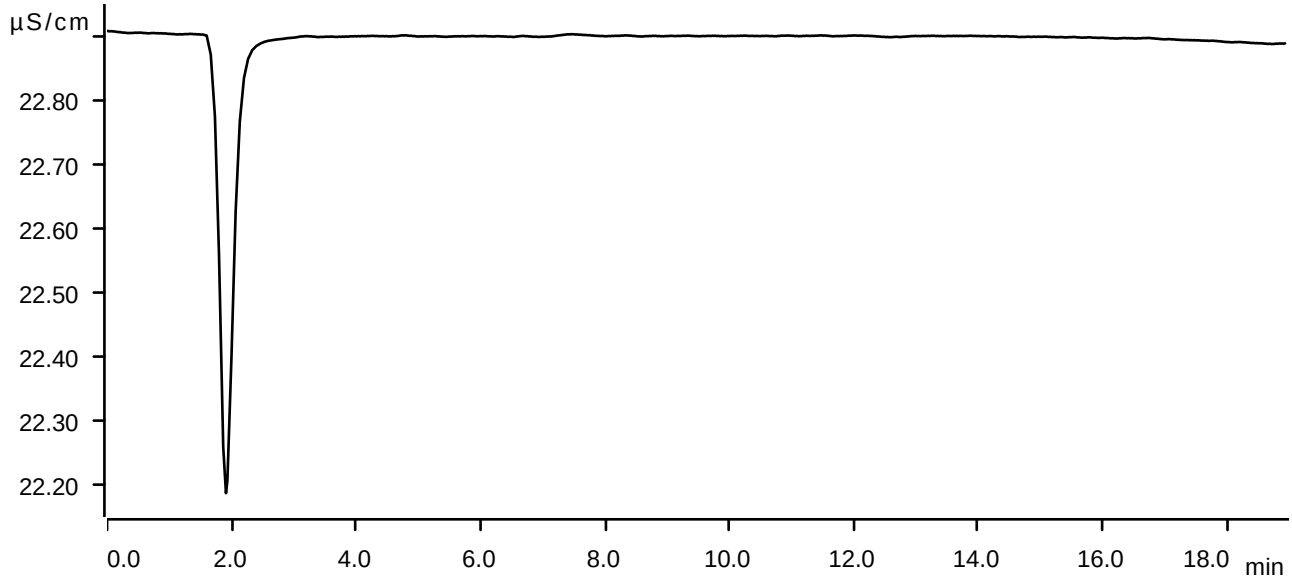
Sample data

Ident	LB133508BLS
Sample type	Sample
Determination start	2024-11-15 16:52:50 UTC-5
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.16	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



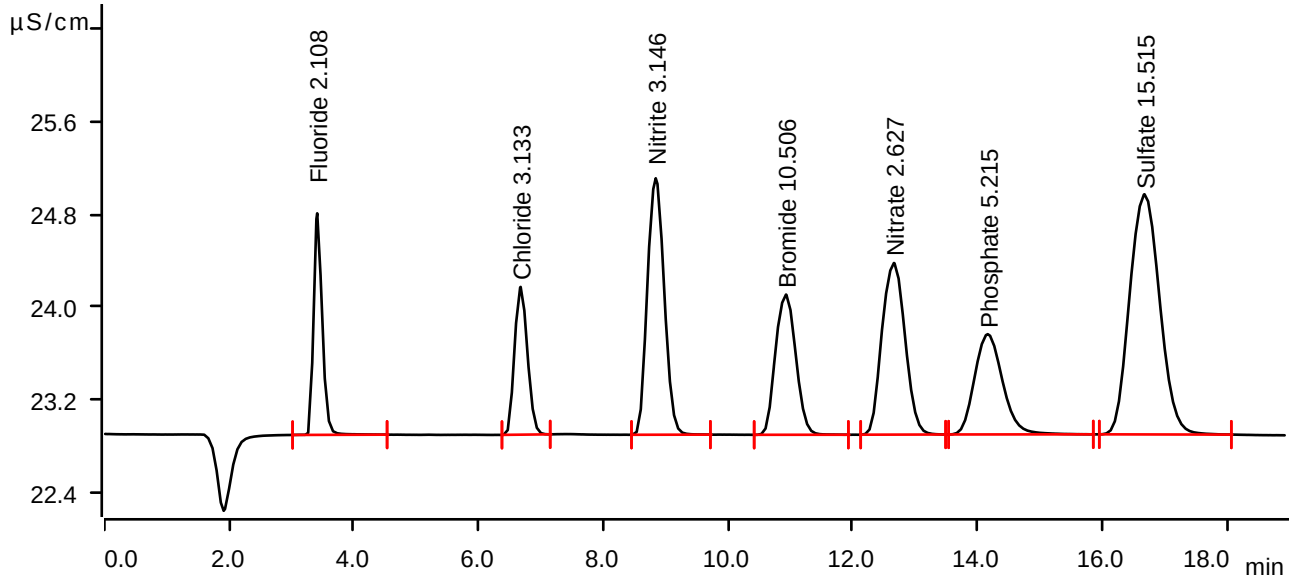
Sample data

Ident	LB133508BSS
Sample type	Check standard 1
Determination start	2024-11-15 17:14:21 UTC-5
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.16	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.413	0.3040	1.903	2.108	Fluoride
2	6.675	0.3043	1.269	3.133	Chloride
3	8.840	0.6885	2.203	3.146	Nitrite
4	10.928	0.4549	1.204	10.506	Bromide
5	12.658	0.6337	1.474	2.627	Nitrate
6	14.163	0.4481	0.861	5.215	Phosphate
7	16.677	1.1534	2.063	15.515	Sulfate

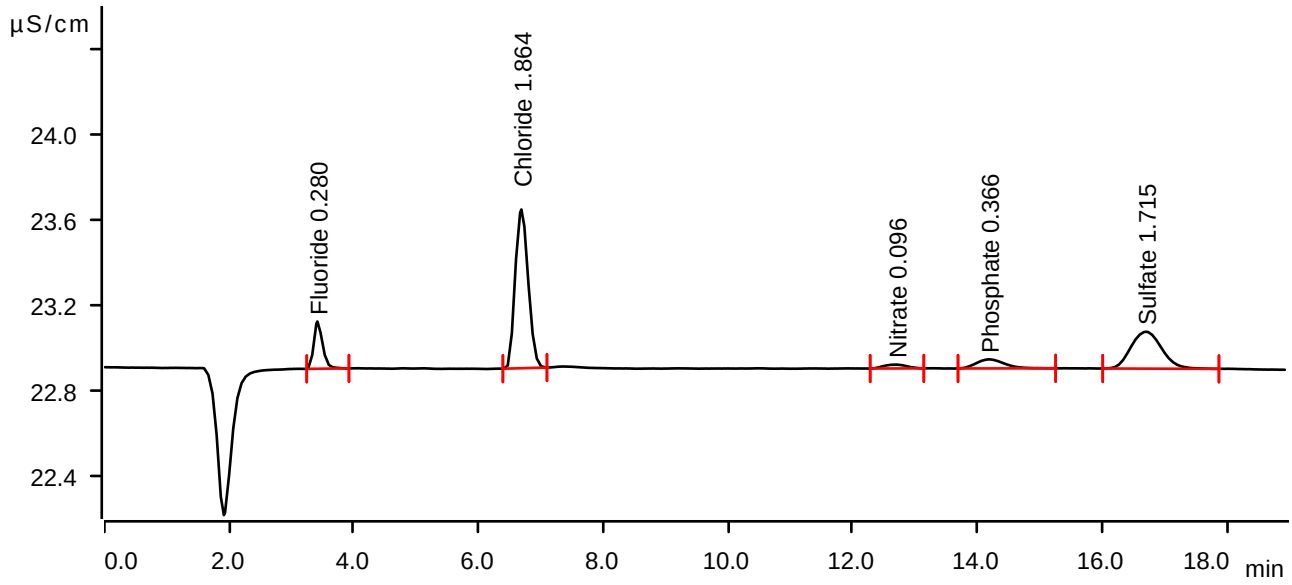
Sample data

Ident	P4852-01
Sample type	Sample
Determination start	2024-11-15 17:35:53 UTC-5
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.22	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.417	0.0360	0.221	0.280	Fluoride
2	6.687	0.1792	0.744	1.864	Chloride
3	12.700	0.0077	0.018	0.096	Nitrate
4	14.180	0.0222	0.042	0.366	Phosphate
5	16.698	0.0988	0.173	1.715	Sulfate

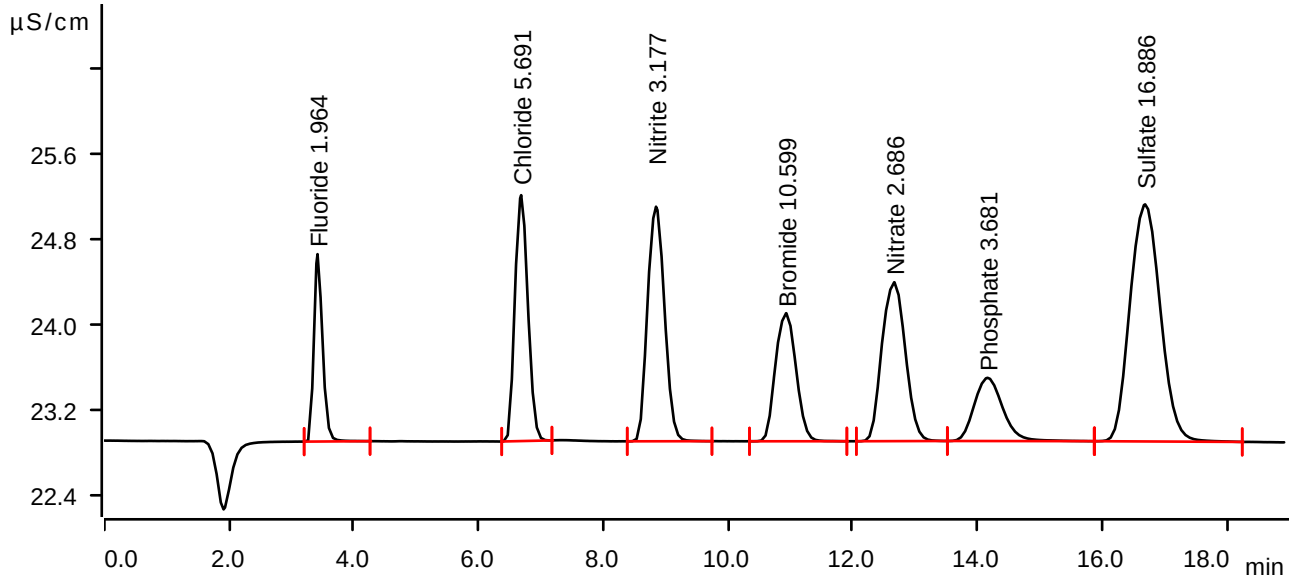
Sample data

Ident	P4852-01MS
Sample type	Sample
Determination start	2024-11-15 17:57:25 UTC-5
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.16	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.418	0.2828	1.756	1.964	Fluoride
2	6.683	0.5567	2.305	5.691	Chloride
3	8.845	0.6953	2.198	3.177	Nitrite
4	10.930	0.4590	1.200	10.599	Bromide
5	12.663	0.6483	1.489	2.686	Nitrate
6	14.160	0.3134	0.592	3.681	Phosphate
7	16.687	1.2583	2.222	16.886	Sulfate

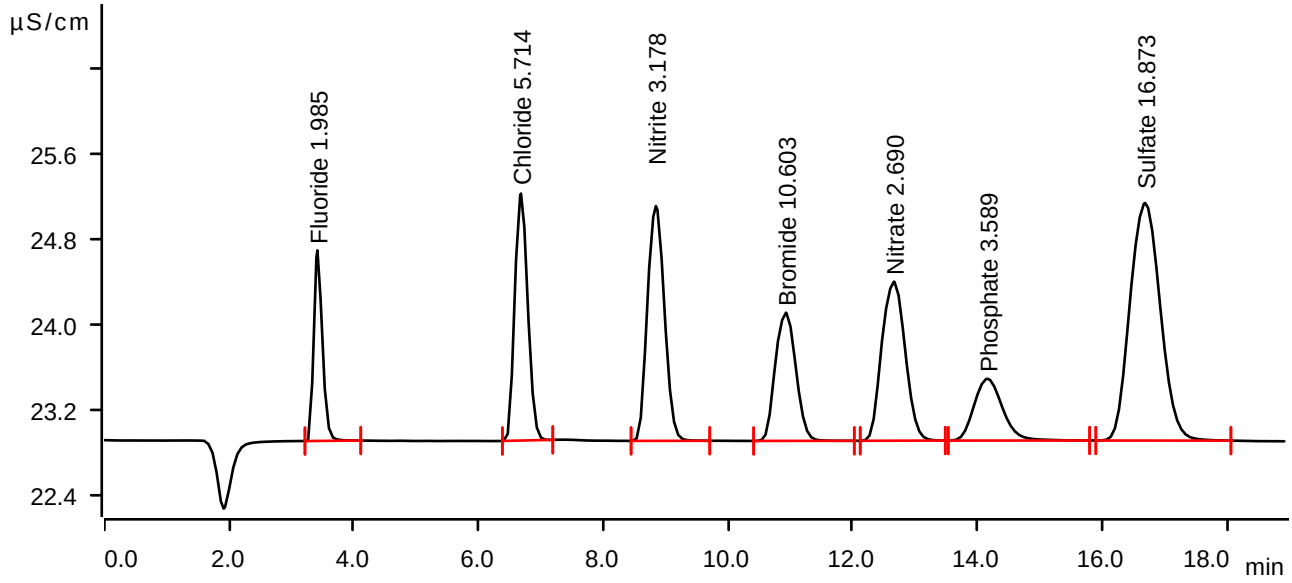
Sample data

Ident	P4852-01MSD
Sample type	Sample
Determination start	2024-11-15 18:18:44 UTC-5
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.16	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.417	0.2859	1.786	1.985	Fluoride
2	6.680	0.5590	2.315	5.714	Chloride
3	8.843	0.6957	2.201	3.178	Nitrite
4	10.928	0.4591	1.201	10.603	Bromide
5	12.660	0.6494	1.490	2.690	Nitrate
6	14.157	0.3053	0.579	3.589	Phosphate
7	16.687	1.2573	2.226	16.873	Sulfate

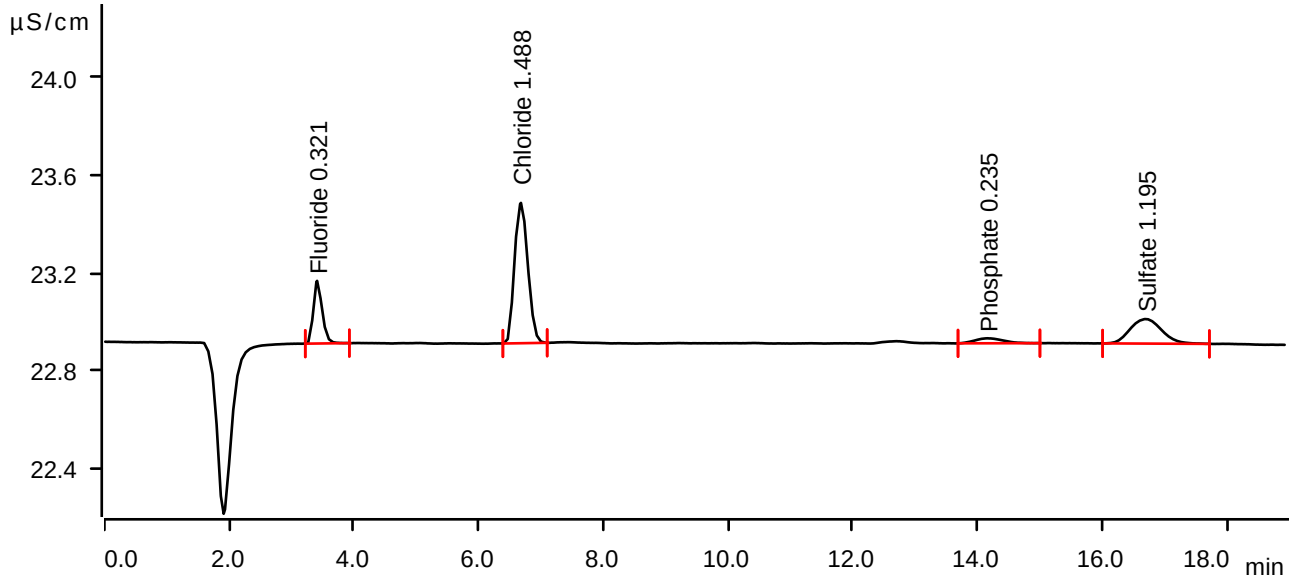
Sample data

Ident	P4852-02
Sample type	Sample
Determination start	2024-11-15 18:40:18 UTC-5
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.22	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.412	0.0420	0.257	0.321	Fluoride
2	6.680	0.1421	0.575	1.488	Chloride
3	14.162	0.0107	0.020	0.235	Phosphate
4	16.688	0.0591	0.101	1.195	Sulfate

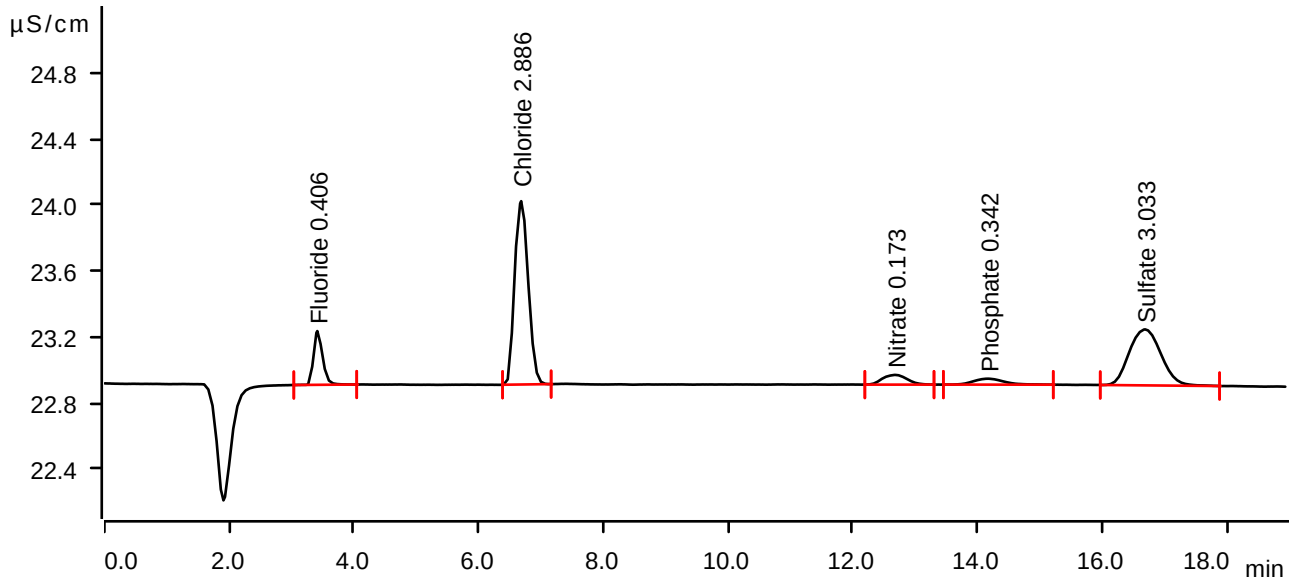
Sample data

Ident	P4852-03
Sample type	Sample
Determination start	2024-11-15 19:01:53 UTC-5
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.22	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.415	0.0544	0.325	0.406	Fluoride
2	6.683	0.2801	1.110	2.886	Chloride
3	12.683	0.0268	0.059	0.173	Nitrate
4	14.173	0.0201	0.036	0.342	Phosphate
5	16.687	0.1995	0.339	3.033	Sulfate

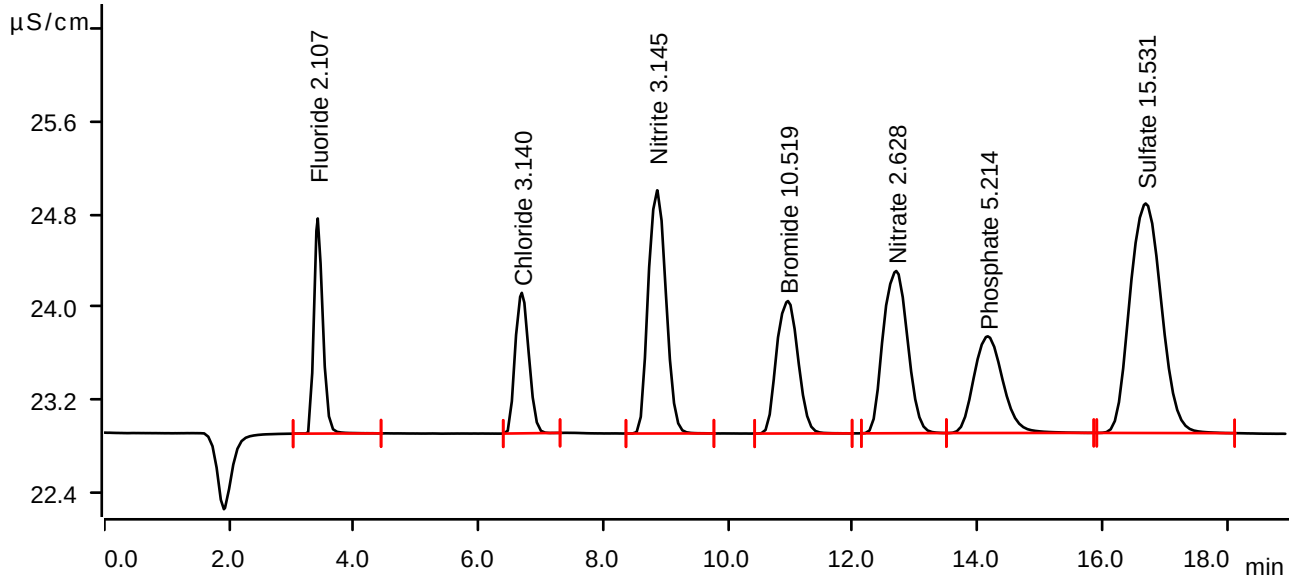
Sample data

Ident	CCV
Sample type	Check standard 1
Determination start	2024-11-15 19:23:27 UTC-5
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.27	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.422	0.3038	1.848	2.107	Fluoride
2	6.693	0.3051	1.207	3.140	Chloride
3	8.863	0.6883	2.089	3.145	Nitrite
4	10.960	0.4555	1.138	10.519	Bromide
5	12.697	0.6339	1.394	2.628	Nitrate
6	14.163	0.4480	0.831	5.214	Phosphate
7	16.697	1.1547	1.972	15.531	Sulfate

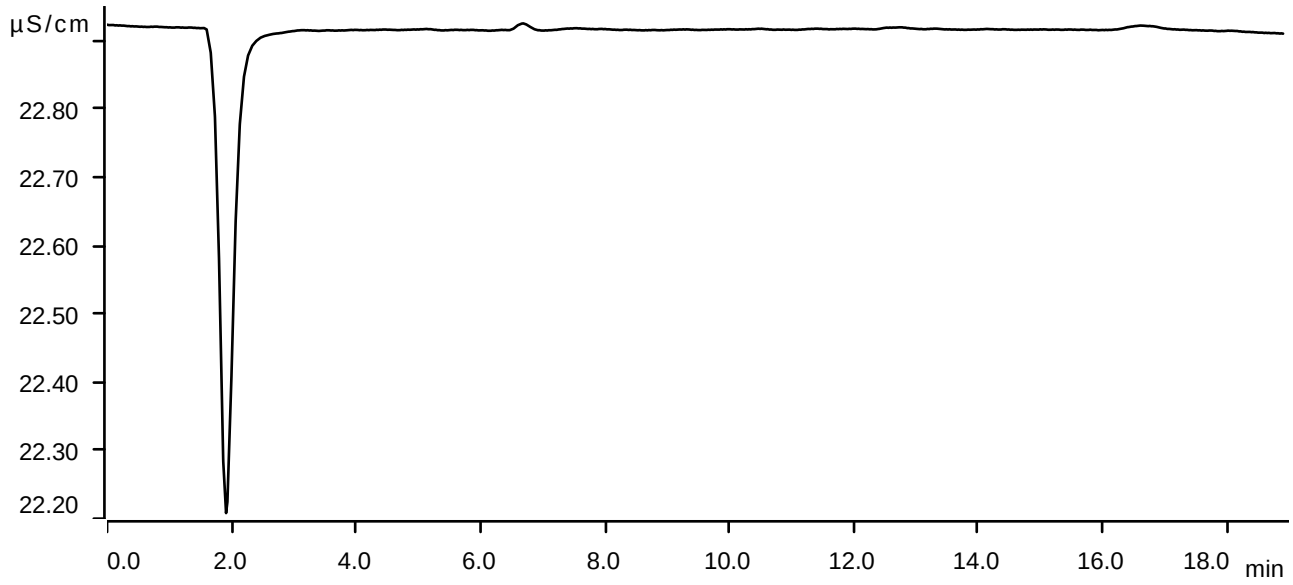
Sample data

Ident	CCB
Sample type	Sample
Determination start	2024-11-15 19:44:57 UTC-5
Method	IC1-101624
Operator	

Anions

Data source	Conductivity detector 1 (Eco IC 1)	
Channel	Conductivity	
Recording time	19.0	min
Integration	Automatically	
Column type	Metrosep A Supp 19 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Maximum flow monitored	yes	
Pressure	12.33	MPa
Maximum pressure monitored	yes	
Temperature	-----	°C

Anions



Metrohm

LB 133520

Test results Aquakem 7.2AQ1

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

Reviewed by : RM Instrument ID : Konelab

11/19/2024 15:40

Test: Ammonia-N

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	0.994	0.0	0.162	
ICB1	0.002	0.0	0.048	
CCV1	0.992	0.0	0.162	
CCB1	0.009	0.0	0.049	
RL CHECK	0.096	0.0	0.059	96 (50-150)
PB165005BL	0.001	0.0	0.048	11/19/2024
PB165005BS	1.008	0.0	0.164	RM
P4853-01	0.395	0.0	0.093	
P4853-01DUP	0.398	0.0	0.093	
P4853-01MS	1.384	0.0	0.207	
P4853-01MSD	1.301	0.0	0.198	
P4853-02	-0.004	0.0	0.047	
PB165004BL	0.006	0.0	0.048	
PB165004BS	1.020	0.0	0.165	
CCV2	1.021	0.0	0.165	
CCB2	0.008	0.0	0.048	
P4852-01	0.004	0.0	0.048	
P4852-01DUP	0.004	0.0	0.048	
P4852-01MS	0.999	0.0	0.163	
P4852-01MSD	1.022	0.0	0.165	
P4852-02	0.012	0.0	0.049	
P4852-03	0.020	0.0	0.050	
CCV3	1.022	0.0	0.165	
CCB3	0.005	0.0	0.048	

N	24
Mean	0.488
SD	0.5263
CV%	107.77

Aquakem v. 7.2AQ1
Results from time period:
Tue Nov 19 13:34:24 2024
Tue Nov 19 15:39:02 2024

Sample Id	Sam/Ctr/cA	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPM	A	Ammonia-N	P	0.0043	mg/l	11/19/2024 14:25:16	
0.1PPM	A	Ammonia-N	P	0.0943	mg/l	11/19/2024 14:25:17	
0.2PPM	A	Ammonia-N	P	0.2007	mg/l	11/19/2024 14:25:18	
0.4PPM	A	Ammonia-N	P	0.4239	mg/l	11/19/2024 14:25:19	
1.0PPM	A	Ammonia-N	P	1.001	mg/l	11/19/2024 14:25:20	
1.3PPM	A	Ammonia-N	P	1.276	mg/l	11/19/2024 14:25:21	
2.0PPM	A	Ammonia-N	P	2.0332	mg/l	11/19/2024 14:25:22	
ICV1	S	Ammonia-N	P	0.9944	mg/l	11/19/2024 15:08:30	
ICB1	S	Ammonia-N	P	0.0021	mg/l	11/19/2024 15:08:31	
CCV1	S	Ammonia-N	P	0.9924	mg/l	11/19/2024 15:08:33	
CCB1	S	Ammonia-N	P	0.0088	mg/l	11/19/2024 15:08:36	
RL CHECK	S	Ammonia-N	P	0.0956	mg/l	11/19/2024 15:08:38	
PB165005BL	S	Ammonia-N	P	0.0014	mg/l	11/19/2024 15:08:39	
PB165005BS	S	Ammonia-N	P	1.0081	mg/l	11/19/2024 15:19:13	
P4853-01	S	Ammonia-N	P	0.3952	mg/l	11/19/2024 15:19:16	
P4853-01DUP	S	Ammonia-N	P	0.398	mg/l	11/19/2024 15:19:17	
P4853-01MS	S	Ammonia-N	P	1.3839	mg/l	11/19/2024 15:19:19	
P4853-01MSD	S	Ammonia-N	P	1.3014	mg/l	11/19/2024 15:19:20	
P4853-02	S	Ammonia-N	P	-0.0044	mg/l	11/19/2024 15:19:23	
PB165004BL	S	Ammonia-N	P	0.0061	mg/l	11/19/2024 15:19:24	
PB165004BS	S	Ammonia-N	P	1.02	mg/l	11/19/2024 15:29:57	
CCV2	S	Ammonia-N	P	1.0214	mg/l	11/19/2024 15:29:59	
CCB2	S	Ammonia-N	P	0.0076	mg/l	11/19/2024 15:30:01	
P4852-01	S	Ammonia-N	P	0.0043	mg/l	11/19/2024 15:30:03	
P4852-01DUP	S	Ammonia-N	P	0.004	mg/l	11/19/2024 15:30:05	
P4852-01MS	S	Ammonia-N	P	0.9995	mg/l	11/19/2024 15:30:06	
P4852-01MSD	S	Ammonia-N	P	1.0225	mg/l	11/19/2024 15:38:55	
P4852-02	S	Ammonia-N	P	0.0123	mg/l	11/19/2024 15:38:57	
P4852-03	S	Ammonia-N	P	0.0198	mg/l	11/19/2024 15:38:58	
CCV3	S	Ammonia-N	P	1.0219	mg/l	11/19/2024 15:38:59	
CCB3	S	Ammonia-N	P	0.005	mg/l	11/19/2024 15:39:02	

Calibration results Aquakem 7.2AQ1 Page: 1

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

Reviewed by : RM Instrument ID : Konelab

11/19/2024 14:30

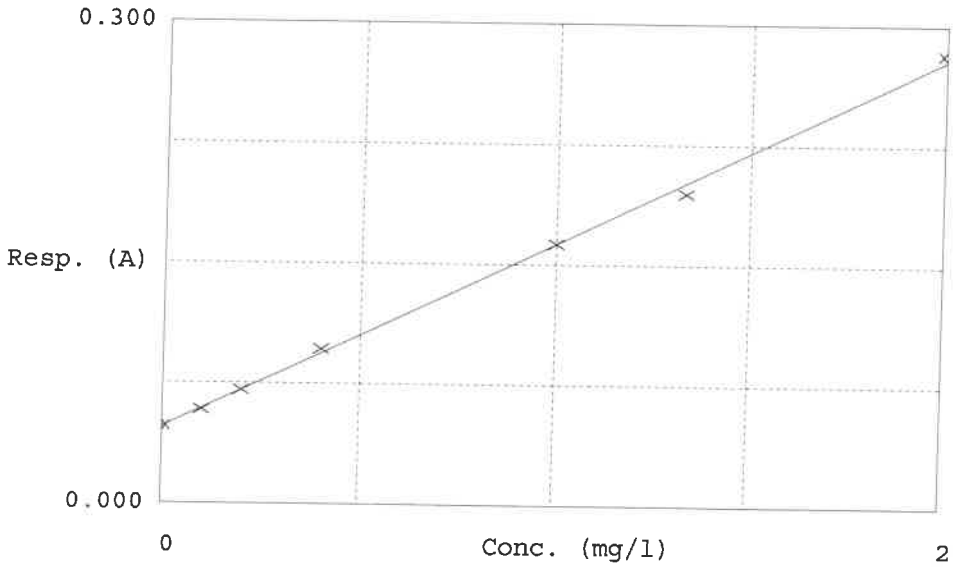
Test Ammonia-N

Accepted 11/19/2024 14:30

Factor 8.678
Bias 0.048

Coeff. of det. 0.998515

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	0.00PPM	0.048	0.0043	0.0000	-
2	NH3-2PPM	0.058	0.0943	0.1000	-5.7
3	NH3-2PPM	0.071	0.2007	0.2000	0.3
4	NH3-2PPM	0.096	0.4239	0.4000	6.0
5	NH3-2PPM	0.163	1.0010	1.0000	0.1
6	NH3-2PPM	0.195	1.2760	1.3333	-1.8
7	NH3-2PPM	0.282	2.0332	2.0000	1.7

11/19/2024
RM

Alliance TECHNICAL GROUP

Soil/Sludge Hexavalent Chromium Preparation Sheet

PB164961

SOP ID : M3060A,7196A-Hex.Chromium-26

SDG No : N/A

Matrix : SOIL

Pippete ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#3

Block ID : WC S-2, WC S-1

Weigh By : RM

Start Digest Date: 11/15/2024 **Time :** 09:30 **Temp :** 90 °C

End Digest Date: 11/15/2024 **Time :** 10:30 **Temp :** 95 °C

II batch 11/15/2024 10:50 90 C
11/15/2024 11:50 95 C RM

Digestion tube ID : M6054

Filter paper ID : 400213

pH Meter ID : WC pH meter-1

Block Thermometer ID : WC-Block#1

Prep Technician Signature: RM

Supervisor Signature: CZ

Standared Name	MLS USED	STD REF. # FROM LOG
PRE-DIGESTION SPIKE	2.0ML	WP108658
INSOLUBLE SPIKE	0.02GM	W2202
POST-DIGESTION SPIKE	2.0ML	WP108658
LCSS	1.0ML	WP108659
PBS003	50ML	W3112

Chemical Used	ML/SAMPLE USED	Lot Number
MAGNESIUM CHLORIDE	0.4GM	W3001
PHOSPHATE BUFFER	0.5ML	WP110498
HEX. DIGESTION SOLN.	50.0ML	WP110633
5M HNO3	5-7ML	WP110381
5N H2SO4	1-3ML	WP110380
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	Vol(ml)	Comment
CAL1	CAL1	2.5ML	W3112
CAL2	CAL2	0.2ML	WP110721
CAL3	CAL3	0.5ML	WP110721
CAL4	CAL4	1ML	WP110721
CAL5	CAL5	0.2ML	WP108658
CAL6	CAL6	1ML	WP108658
CAL7	CAL7	2.0ML	WP108658
ICV	ICV	1ML	WP108659
ICB	ICB	2.5ML	W3112
CCV	CCV	1ML	WP108658
CCB	CCB	2.5ML	W3112

Extraction Conformance/Non-Conformance Comments:

11/15/2024 RM

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Soil/Sludge Hexavalent Chromium Preparation Sheet

PB164961

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
P4833-01	MH-731	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
P4833-01DUP	MH-731DUP	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4833-01MSPre	MH-731MSPRE	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
P4833-01MS2Ins	MH-731MS2INS	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
P4833-01MS3Post	MH-731MS3POST	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4833-05	TP-2	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4848-01	TP-1	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4849-01	RR-1	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4851-01	OK-02-11142024	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4852-01	COMP-1	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4852-02	COMP-2	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4852-03	COMP-3	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
P4859-01	NB-08-111424	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4870-01	TP-1	2.55	100	N/A	N/A	N/A	N/A	N/A	N/A
P4870-04	MH-735	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4870-07	MH-736	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4870-10	TP-15	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
PB164961BL	PBS961	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A
PB164961BS	LCS961	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : HEX-11-15 **WorkList ID :** 185470 **Department :** Distillation **Date :** 11-15-2024 08:38:45

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4833-01	MH-731	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	L31	11/13/2024	7196A
P4833-05	TP-2	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	L31	11/13/2024	7196A
P4848-01	TP-1	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	L41	11/14/2024	7196A
P4849-01	RR-1	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	L51	11/14/2024	7196A
P4851-01	OK-02-11142024	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG05	L41	11/14/2024	7196A
P4852-01	COMP-1	Solid	Hexavalent Chromium	Cool 4 deg C	POWE02	L41	11/13/2024	7196A
P4852-02	COMP-2	Solid	Hexavalent Chromium	Cool 4 deg C	POWE02	L41	11/13/2024	7196A
P4852-03	COMP-3	Solid	Hexavalent Chromium	Cool 4 deg C	POWE02	L41	11/13/2024	7196A
P4859-01	NB-08-111424	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG05	L41	11/14/2024	7196A
P4870-01	TP-1	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03		11/14/2024	7196A
P4870-04	MH-735	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03		11/14/2024	7196A
P4870-07	MH-736	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03		11/14/2024	7196A
P4870-10	TP-15	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03		11/14/2024	7196A

Date/Time 11/15/2024 08:45
Raw Sample Received by: RM (WL)
Raw Sample Relinquished by:

Date/Time 11/15/2024 12:00
Raw Sample Received by:
Raw Sample Relinquished by: RM (WL)

Alliance TECHNICAL GROUP

Soil/Sludge Ammonia Preparation Sheet

PB165004

SOP ID : MSM4500-NH3 B,G-Ammonia-17

SDG No : N/A

Matrix : SOIL

Pippete ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#2

Block ID : WC-DIST-BLOCK-1

Weigh By : RM

Start Digest Date: 11/19/2024 **Time :** 12:20 **Temp :** 150 °C

End Digest Date: 11/19/2024 **Time :** 13:20 **Temp :** 160 °C

Digestion tube ID : M5595

Filter paper ID : N/A

pH Meter ID : N/A

Block Thermometer ID : WC CYANIDE

Prep Technician Signature: RM

Supervisor Signature: IZ

Standared Name	MLS USED	STD REF. # FROM LOG
LCSS	1.0ML	WP110715
MS/MSD SPIKE SOL.	1.0ML	WP110714
PBS003	50.0ML	W3112
RL CHECK	N/A	AS PER PB165005
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
BORATE BUFFER	2.5ML	WP108708
NAOH 6N	0.5-2.0ML	WP108660
H2SO4 0.04N	5.0ML	WP110335
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

Extraction Conformance/Non-Conformance Comments:

ALL GLASSWEAR ARE STEAMED OUT AND THERE WERE NO TRACE OF AMMONIA USING NESLER REAGENT WP108814

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/19/2024 13:30	RM CWC	RM CWC
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Soil/Sludge Ammonia Preparation Sheet

PB165004

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
P4852-01	COMP-1	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P4852-01DUP	COMP-1DUP	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P4852-01MS	COMP-1MS	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
P4852-01MSD	COMP-1MSD	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P4852-02	COMP-2	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
P4852-03	COMP-3	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
PB165004BL	PBS004	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A
PB165004BS	LCS004	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : ammonia-soil-11-15 **WorkList ID :** 185466 **Department :** Distillation **Date :** 11-15-2024 09:01:12

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4852-01	COMP-1	Solid	Ammonia	Cool 4 deg C	POWE02	L41	11/13/2024	SM4500-NH3
P4852-02	COMP-2	Solid	Ammonia	Cool 4 deg C	POWE02	L41	11/13/2024	SM4500-NH3
P4852-03	COMP-3	Solid	Ammonia	Cool 4 deg C	POWE02	L41	11/13/2024	SM4500-NH3

Date/Time 11/19/2024 10:25

Raw Sample Received by: RM CWC

Raw Sample Relinquished by: [signature]

Date/Time 11/19/2024 12:30

Raw Sample Received by: [signature]

Raw Sample Relinquished by: RM CWC

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

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB133468

Review By	rubina	Review On	11/15/2024 3:57:01 PM
Supervise By	Iwona	Supervise On	11/15/2024 4:34:55 PM
SubDirectory	LB133468	Test	Hexavalent Chromium

STD. NAME	STD REF.#
ICAL Standard	N/A
ICV Standard	N/A
CCV Standard	N/A
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	N/A
Chk Standard	WP110722,WP110380,WP110381,WP108645

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	11/15/24 12:30		rubina	OK
2	CAL2	CAL2	CAL	11/15/24 12:31		rubina	OK
3	CAL3	CAL3	CAL	11/15/24 12:32		rubina	OK
4	CAL4	CAL4	CAL	11/15/24 12:33		rubina	OK
5	CAL5	CAL5	CAL	11/15/24 12:34		rubina	OK
6	CAL7	CAL7	CAL	11/15/24 12:36		rubina	OK
7	ICV	ICV	ICV	11/15/24 12:37		rubina	OK
8	ICB	ICB	ICB	11/15/24 12:38		rubina	OK
9	CCV1	CCV1	CCV	11/15/24 12:39		rubina	OK
10	CCB1	CCB1	CCB	11/15/24 12:40		rubina	OK
11	RL Check	RL Check	SAM	11/15/24 12:41		rubina	OK
12	PB164961BL	PB164961BL	MB	11/15/24 12:42		rubina	OK
13	PB164961BS	PB164961BS	LCS	11/15/24 12:43		rubina	OK
14	P4833-01	MH-731	SAM	11/15/24 12:44		rubina	OK
15	P4833-01DUP	MH-731DUP	DUP	11/15/24 12:45		rubina	OK
16	P4833-01MSPre	MH-731MS	MS	11/15/24 12:46		rubina	OK
17	P4833-01MS2Ins	MH-731MS	MS	11/15/24 12:47		rubina	OK
18	P4833-01MS3Post	MH-731MS	MS	11/15/24 12:48		rubina	OK

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Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB133468

Review By	rubina	Review On	11/15/2024 3:57:01 PM
Supervise By	Iwona	Supervise On	11/15/2024 4:34:55 PM
SubDirectory	LB133468	Test	Hexavalent Chromium

STD. NAME	STD REF.#
ICAL Standard	N/A
ICV Standard	N/A
CCV Standard	N/A
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	N/A
Chk Standard	WP110722,WP110380,WP110381,WP108645

19	P4833-05	TP-2	SAM	11/15/24 12:49		rubina	OK
20	P4848-01	TP-1	SAM	11/15/24 12:50		rubina	OK
21	P4849-01	RR-1	SAM	11/15/24 12:51		rubina	OK
22	CCV2	CCV2	CCV	11/15/24 12:52		rubina	OK
23	CCB2	CCB2	CCB	11/15/24 12:53		rubina	OK
24	P4851-01	OK-02-11142024	SAM	11/15/24 12:54		rubina	OK
25	P4852-01	COMP-1	SAM	11/15/24 12:55		rubina	OK
26	P4852-02	COMP-2	SAM	11/15/24 12:56		rubina	OK
27	P4852-03	COMP-3	SAM	11/15/24 12:57		rubina	OK
28	P4859-01	NB-08-111424	SAM	11/15/24 12:58		rubina	OK
29	P4870-01	TP-1	SAM	11/15/24 12:59		rubina	OK
30	P4870-04	MH-735	SAM	11/15/24 13:00		rubina	OK
31	P4870-07	MH-736	SAM	11/15/24 13:01		rubina	OK
32	P4870-10	TP-15	SAM	11/15/24 13:02		rubina	OK
33	CCV3	CCV3	CCV	11/15/24 13:03		rubina	OK
34	CCB3	CCB3	CCB	11/15/24 13:04		rubina	OK
35	CAL6	CAL6	CAL	11/15/24 13:35		rubina	OK

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Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QCBatch ID # LB133508

Review By	Niha	Review On	11/20/2024 1:32:17 PM
Supervise By	Iwona	Supervise On	11/20/2024 1:41:26 PM
SubDirectory	LB133508	Test	Anions

STD. NAME	STD REF.#
ICAL Standard	WP110250,WP110251,WP110252,WP110253,WP110254,WP110255,WP110256,WP110257
ICV Standard	WP110258
CCV Standard	WP110718
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP110719
Chk Standard	WP110260,WP110261

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	STD1	STD1	CAL1	10/16/24 10:55	All standards, samples, and	NF/IZ	OK
2	STD2	STD2	CAL2	10/16/24 11:17	QC are filtered through	NF/IZ	OK
3	STD3	STD3	CAL3	10/16/24 11:38	0.45um, filter lot W2865	NF/IZ	OK
4	STD4	STD4	CAL4	10/16/24 11:59		NF/IZ	OK
5	STD5	STD5	CAL5	10/16/24 12:21		NF/IZ	OK
6	STD6	STD6	CAL6	10/16/24 12:42		NF/IZ	OK
7	STD7	STD7	CAL7	10/16/24 13:04		NF/IZ	OK
8	ICV1	ICV1	ICV	10/16/24 13:37		NF/IZ	OK
9	ICB1	ICB1	ICB	10/16/24 13:59		NF/IZ	OK
10	CCV1	CCV1	CCV	11/15/24 16:09		NF/IZ	OK
11	CCB1	CCB1	CCB	11/15/24 16:31		NF/IZ	OK
12	LB133508BLS	LB133508BLS	MB	11/15/24 16:52		NF/IZ	OK
13	LB133508BSS	LB133508BSS	LCS	11/15/24 17:14		NF/IZ	OK
14	P4852-01	COMP-1	SAM	11/15/24 17:35		NF/IZ	OK
15	P4852-01MS	COMP-1MS	MS	11/15/24 17:57	5ml W3091	NF/IZ	OK
16	P4852-01MSD	COMP-1MSD	MSD	11/15/24 18:18	5ml W3091	NF/IZ	OK
17	P4852-02	COMP-2	SAM	11/15/24 18:40		NF/IZ	OK
18	P4852-03	COMP-3	SAM	11/15/24 19:01		NF/IZ	OK

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Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QCBatch ID # LB133508

Review By	Niha	Review On	11/20/2024 1:32:17 PM
Supervise By	Iwona	Supervise On	11/20/2024 1:41:26 PM
SubDirectory	LB133508	Test	Anions

STD. NAME	STD REF.#
ICAL Standard	WP110250,WP110251,WP110252,WP110253,WP110254,WP110255,WP110256,WP110257
ICV Standard	WP110258
CCV Standard	WP110718
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP110719
Chk Standard	WP110260,WP110261

19	CCV2	CCV2	CCV	11/15/24 19:23		NF/IZ	OK
20	CCB2	CCB2	CCB	11/15/24 19:44		NF/IZ	OK

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Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB133520

Review By	rubina	Review On	11/20/2024 9:46:09 AM
Supervise By	Iwona	Supervise On	11/20/2024 11:19:00 AM
SubDirectory	LB133520	Test	Ammonia

STD. NAME	STD REF.#
ICAL Standard	WP110762
ICV Standard	WP110764
CCV Standard	WP110763
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP110715
Chk Standard	WP110416,WP110019,WP108709,WP108840

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPM	0.0PPM	CAL1	11/19/24 14:25		rubina	OK
2	0.1PPM	0.1PPM	CAL2	11/19/24 14:25		rubina	OK
3	0.2PPM	0.2PPM	CAL3	11/19/24 14:25		rubina	OK
4	0.4PPM	0.4PPM	CAL4	11/19/24 14:25		rubina	OK
5	1.0PPM	1.0PPM	CAL5	11/19/24 14:25		rubina	OK
6	1.3PPM	1.3PPM	CAL6	11/19/24 14:25		rubina	OK
7	2.0PPM	2.0PPM	CAL7	11/19/24 14:25		rubina	OK
8	ICV1	ICV1	ICV	11/19/24 15:08		rubina	OK
9	ICB1	ICB1	ICB	11/19/24 15:08		rubina	OK
10	CCV1	CCV1	CCV	11/19/24 15:08		rubina	OK
11	CCB1	CCB1	CCB	11/19/24 15:08		rubina	OK
12	RL	RL	SAM	11/19/24 15:08		rubina	OK
13	PB165005BL	PB165005BL	MB	11/19/24 15:08		rubina	OK
14	PB165005BS	PB165005BS	LCS	11/19/24 15:19		rubina	OK
15	P4853-01	001-WILLETS-PT-BL\	SAM	11/19/24 15:19		rubina	OK
16	P4853-01DUP	001-WILLETS-PT-BL\	DUP	11/19/24 15:19		rubina	OK
17	P4853-01MS	001-WILLETS-PT-BL\	MS	11/19/24 15:19		rubina	OK
18	P4853-01MSD	001-WILLETS-PT-BL\	MSD	11/19/24 15:19		rubina	OK

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Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB133520

Review By	rubina	Review On	11/20/2024 9:46:09 AM
Supervise By	Iwona	Supervise On	11/20/2024 11:19:00 AM
SubDirectory	LB133520	Test	Ammonia

STD. NAME	STD REF.#
ICAL Standard	WP110762
ICV Standard	WP110764
CCV Standard	WP110763
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP110715
Chk Standard	WP110416,WP110019,WP108709,WP108840

19	P4853-02	002-35TH-AVE(NOV)	SAM	11/19/24 15:19		rubina	OK
20	PB165004BL	PB165004BL	MB	11/19/24 15:19		rubina	OK
21	PB165004BS	PB165004BS	LCS	11/19/24 15:29		rubina	OK
22	CCV2	CCV2	CCV	11/19/24 15:29		rubina	OK
23	CCB2	CCB2	CCB	11/19/24 15:30		rubina	OK
24	P4852-01	COMP-1	SAM	11/19/24 15:30		rubina	OK
25	P4852-01DUP	COMP-1DUP	DUP	11/19/24 15:30		rubina	OK
26	P4852-01MS	COMP-1MS	MS	11/19/24 15:30		rubina	OK
27	P4852-01MSD	COMP-1MSD	MSD	11/19/24 15:38		rubina	OK
28	P4852-02	COMP-2	SAM	11/19/24 15:38		rubina	OK
29	P4852-03	COMP-3	SAM	11/19/24 15:38		rubina	OK
30	CCV3	CCV3	CCV	11/19/24 15:38		rubina	OK
31	CCB3	CCB3	CCB	11/19/24 15:39		rubina	OK

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Instrument ID: GRAVIMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB133545

Review By	JSathvara	Review On	11/21/2024 8:53:56 AM
Supervise By	Baldev	Supervise On	11/21/2024 8:55:28 AM
SubDirectory	LB133545	Test	Trivalent Chromium

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

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	P4852-01	COMP-1	SAM	11/18/24 15:26		JSathvara	OK
2	P4852-02	COMP-2	SAM	11/18/24 15:31		JSathvara	OK
3	P4852-03	COMP-3	SAM	11/18/24 15:43		JSathvara	OK

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Prep Standard - Chemical Standard Summary

Order ID : P4852

Test : Ammonia,Anions Group1,Hexavalent Chromium,Percent Solids,Trivalent Chromium

Prepbatch ID : PB164961,PB165004,

Sequence ID/Qc Batch ID: LB133468,LB133508,LB133520,LB133545,

Standard ID :
WP108645,WP108658,WP108659,WP108660,WP108661,WP108708,WP108709,WP108840,WP110019,WP110149,WP110150,WP110250,WP110251,WP110252,WP110253,WP110254,WP110255,WP110256,WP110257,WP110258,WP110259,WP110260,WP110261,WP110335,WP110380,WP110381,WP110416,WP110498,WP110633,WP110714,WP110715,WP110718,WP110719,WP110722,WP110762,WP110763,WP110764,

Chemical ID :
AS PER
PB165005,E3788,M5673,M5947,M5954,M6041,M6096,W1992,W1993,W2202,W2511,W2647,W2651,W2652,W2666,W2700,W2708,W2858,W2979,W3001,W3058,W3062,W3063,W3112,W3113,W3132,W3143,

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3354	Hexchrome Cleaning Solution	WP108645	07/05/2024	12/27/2024	Rubina Mughal	None	None	Iwona Zarych 07/08/2024

FROM 182.00000ml of M5947 + 727.00000ml of W3112 + 91.00000ml of M5954 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1993	HEXAVALENTCHROMIUM STOCK STD 1, 50PPM	WP108658	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 07/09/2024

FROM 0.14140gram of W2651 + 1000.00000ml 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
1994	HEXAVALENTCHROMIUM STOCK STD 2, 50PPM	WP108659	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 07/09/2024

FROM 0.14140gram of W2652 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1471	NaOH Solution, 6N	WP108660	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 07/09/2024

FROM 240.00000gram of W3113 + 760.00000ml 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
1796	NaOH, 0.1N	WP108661	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 07/09/2024

FROM 4.00000gram of W3113 + 996.00000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1494	BORATE BUFFER	WP108708	07/11/2024	01/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Mohan Bera 07/17/2024

FROM 0.90250L of W3112 + 9.50000gram of W2700 + 88.00000ml of WP108661 = Final Quantity: 1.000 L

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
290	Phenol reagent for Ammonia	WP108709	07/11/2024	01/11/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Mohan Bera 07/17/2024

FROM 3.20000gram of W3113 + 8.30000gram of W2858 + 88.80000ml of W3112 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
635	EDTA BUFFER FOR AMMONIA	WP108840	07/26/2024	01/26/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 07/26/2024

FROM 5.50000gram of W3113 + 50.00000gram of W3132 + 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
289	Sodium Hypochlorite for Ammonia	WP110019	10/02/2024	01/31/2025	Rubina Mughal	None	None	Iwona Zarych 10/04/2024

FROM 50.00000ml of W3112 + 50.00000ml of W3143 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
153	Ammonia Stock Std. (1000 ppm)	WP110149	10/11/2024	04/08/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 10/14/2024

FROM 3.81900gram of W1993 + 996.18100ml 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
1895	Ammonia Stock Std, 1000PPM-SS	WP110150	10/11/2024	04/08/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 10/14/2024

FROM 3.81900gram of W1992 + 996.18100ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2487	Anions 300/9056 calibration standard 1	WP110250	10/16/2024	10/17/2024	Iwona Zarych	None	None	Jignesh Parikh 10/17/2024

FROM 10.00000ml of W3112 = Final Quantity: 10.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
24	Anions 300/9056 calibration standard 2	WP110251	10/16/2024	10/17/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 10/17/2024

FROM 0.20000ml of W3062 + 9.80000ml of W3112 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
25	Anions 300/9056 calibration standard 3	WP110252	10/16/2024	10/17/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 10/17/2024

FROM 0.40000ml of W3062 + 9.60000ml of W3112 = Final Quantity: 10.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
26	Anions 300/9056 calibration standard 4	WP110253	10/16/2024	10/17/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 10/17/2024

FROM 0.50000ml of W3062 + 9.50000ml of W3112 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3680	Anions 300/9056 calibration standard 5-CCV	WP110254	10/16/2024	10/17/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 10/17/2024

FROM 45.00000ml of W3112 + 5.00000ml of W3062 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3679	Anions 300/9056 calibration standard 6	WP110255	10/16/2024	10/17/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 10/17/2024

FROM 2.00000ml of W3062 + 8.00000ml of W3112 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3681	Anions 300/9056 calibration standard 7	WP110256	10/16/2024	10/17/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 10/17/2024

FROM 2.50000ml of W3062 + 7.50000ml of W3112 = Final Quantity: 10.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
34	Anions 300/9056 calibration standard 8	WP110257	10/16/2024	10/17/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 10/17/2024

FROM 5.00000ml of W3062 + 5.00000ml of W3112 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3233	Anions 300/9056 ICV-LCS std	WP110258	10/16/2024	10/17/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 10/17/2024

FROM 45.00000ml of W3112 + 5.00000ml of W3063 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
4035	IC ELUENT CONCENTRATE FOR IC-1	WP110259	10/16/2024	04/16/2025	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Jignesh Parikh 10/17/2024

FROM 2.10000gram of W2647 + 84.75000gram of W3058 + 913.15000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
4036	IC ELUENT FOR IC-1	WP110260	10/16/2024	11/16/2024	Iwona Zarych	None	Glass Pipette-A	Jignesh Parikh 10/17/2024

FROM 1980.00000ml of W3112 + 20.00000ml of WP110259 = Final Quantity: 2000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
4037	IC H2SO4 FOR IC-1	WP110261	10/16/2024	11/16/2024	Iwona Zarych	None	Glass Pipette-A	Jignesh Parikh 10/17/2024

FROM 5.60000ml of M6041 + 994.40000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1597	0.04 N H2SO4	WP110335	10/22/2024	04/22/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 10/22/2024

FROM 1.00000ml of M5673 + 999.00000ml 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
126	5N sulfuric acid	WP110380	10/24/2024	04/24/2025	Rubina Mughal	None	None	Iwona Zarych 10/24/2024

FROM 140.00000ml of M5673 + 860.00000ml of W3112 = Final Quantity: 1.000 L

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1836	HNO3 Hex-Chrome, 5M	WP110381	10/24/2024	04/24/2025	Rubina Mughal	None	None	Iwona Zarych 10/24/2024

FROM 320.00000ml of M6096 + 680.00000ml of W3112 = 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
740	sodium nitroferricyanide for ammonia	WP110416	10/25/2024	04/25/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 10/25/2024

FROM 0.05000gram of W2666 + 99.95000ml of W3112 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
190	HEX CHROME PHOSPHATE BUFFER	WP110498	10/31/2024	04/29/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 10/31/2024

FROM 0.84500L of W3112 + 68.04000gram of W2708 + 87.09000gram of W2511 = Final Quantity: 1.000 L

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
148	hexchrome digestion fluid	WP110633	11/11/2024	12/11/2024	Rubina Mughal	WETCHEM_SCALE_4 (WCSC-4)	None	Iwona Zarych 11/11/2024

FROM 120.00000gram of W3058 + 4.00000L of W3112 + 80.00000gram of W3113 = Final Quantity: 4000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1322	Ammonia Intermediate Std, 50PPM	WP110714	11/15/2024	12/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/18/2024

FROM 95.00000ml of W3112 + 5.00000ml of WP110149 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1639	Ammonia Intermediate Std-Second source, 50PPM	WP110715	11/15/2024	12/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/18/2024

FROM 95.00000ml of W3112 + 5.00000ml of WP110150 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3680	Anions 300/9056 calibration standard 5-CCV	WP110718	11/15/2024	11/16/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/18/2024

FROM 45.00000ml of W3112 + 5.00000ml of W3063 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3233	Anions 300/9056 ICV-LCS std	WP110719	11/15/2024	11/16/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/18/2024

FROM 45.00000ml of W3112 + 5.00000ml of W3062 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
114	hexavalent chromium color reagent	WP110722	11/15/2024	11/22/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 11/18/2024

FROM 0.25000gram of W2979 + 50.00000ml of E3788 = Final Quantity: 50.000 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
275	Ammonia Calibration Std. (2 ppm)	WP110762	11/19/2024	11/20/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 11/21/2024

FROM 48.00000ml of W3112 + 2.00000ml of WP110714 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
285	Ammonia CCV Std. (1 ppm)	WP110763	11/19/2024	11/20/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 11/21/2024

FROM 49.00000ml of W3112 + 1.00000ml of WP110714 = Final Quantity: 50.000 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
286	Ammonia ICV Std. (1 ppm)	WP110764	11/19/2024	11/20/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 11/21/2024

FROM 49.00000ml of W3112 + 1.00000ml of WP110715 = Final Quantity: 50.000 ml

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Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	23H1462005	04/23/2025	08/13/2024 / Rajesh	08/13/2024 / Rajesh	E3788

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	06/27/2024 / Al-Terek	06/23/2024 / Al-Terek	M5947

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	01/02/2025	07/01/2024 / Al-Terek	06/25/2024 / Al-Terek	M5954

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	03/25/2029	10/22/2024 / Janvi	09/21/2024 / Janvi	M6096

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J0660-1 / AMMONIUM CHLORIDE, ACS, 500G	WL13B	04/08/2025	04/08/2015 / apatel	04/08/2015 / apatel	W1992

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J0660-1 / AMMONIUM CHLORIDE, ACS, 500G	XE09B	04/08/2025	04/08/2015 / apatel	04/08/2015 / apatel	W1993

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA14125-36 / LEAD (II) CHROMATE, ACS, 500G	U19B018	01/23/2027	01/23/2017 / apatel	01/23/2017 / apatel	W2202

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3252-1 / POTAS PHOSPHATE, DIBASIC PWD, ACS, 500G	0000207436	04/29/2025	05/22/2019 / AMANDEEP	03/21/2019 / apatel	W2511

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3506-5 / SODIUM BICARBONATE, PWD, ACS, 2.5KG	0000240594	06/03/2026	02/24/2020 / AMANDEEP	01/20/2020 / apatel	W2647

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA13450-36 / Potassium Dichromate, 500g(NEW)	T15F019	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2651

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P188-500 / Potassium Dichromate, 500g(new-2nd lot)	194664	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2652

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	87683 / Sodium Nitroferricyanide 250g	W12F013	02/10/2030	02/10/2020 / apatel	02/10/2020 / apatel	W2666

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3568-1 / Sodium Borate, 500 gms	2019111354	04/23/2025	04/23/2020 / apatel	03/11/2020 / apatel	W2700

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3246-1 / POTAS PHOSPHATE, MONO, CRYS, ACS, 500G	99/2019-20	05/05/2025	05/05/2020 / apatel	05/05/2020 / apatel	W2708

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P1060-10 / PHENOL, ACS, 500G	M13H048	01/07/2026	07/07/2021 / apatel	07/07/2021 / apatel	W2858

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	31390 / 1,5-Diphenylcarbazide	MKCR6636	12/09/2027	12/09/2022 / Iwona	12/09/2022 / Iwona	W2979

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CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EM-SX0395-3 / SODIUM CARBONATE ANHYDR 2.5KG	2023012653	10/19/2028	09/03/2024 / jignesh	10/19/2023 / Iwona	W3058

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	300-CAL-A-500ML / 300.0 Calibration Standard, 500 ml	T2-MEB716667	02/12/2025	02/12/2024 / Iwona	10/30/2023 / Iwona	W3062

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	300-CAL-A-500ML / 300.0 Calibration Standard, 500 ml	U2-MEB735684	04/09/2025	04/09/2024 / Iwona	11/16/2023 / Iwona	W3063

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

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC05050-1 / EDTA, disodium salt, dihydrate 1 lb	2ND0156	07/10/2026	07/26/2024 / Iwona	07/26/2024 / Iwona	W3132

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J9416-1 / Sodium Hypochlorite 500 ml	2407F34	01/31/2025	09/30/2024 / Iwona	09/30/2024 / Iwona	W3143

Alfa Aesar

Certificate of analysis

Product No.	14125
Product:	Lead(II) chromate, ACS, 98%
Lot No.:	U19B018

Test	Limits	Results
Assay	98.0 % min	99.3 %
Soluble matter	0.15 % max	< 0.02 %
Carbon compounds	0.01 % max	< 0.01 %

Traceable to NIST? Yes

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Certificate of Analysis

Date of Release: ***12/18/2013***

Product: ***Ammonium Chloride GR ACS*** ***Catalog No.:*** ***AX1270 all size codes***

Grade: ***Meets ACS Specifications*** ***CAS #:*** ***12125-02-9***

Country of Origin: ***India*** ***FW:*** ***53.49***

Lot No.: ***WL13B*** ClH_4N

Characteristic	Requirement Minimum	Maximum	Results	UOM
Assay (argentometric)	99.5		99.9	%
Calcium (Ca)		0.001	0.0001	%
Form	White crystals		White crystals	
Heavy metals (as Pb)		5	5	ppm
Identification	To pass test		Passes	
Insoluble matter		0.005	0.002	%
Iron (Fe)		2	2	ppm
Loss on drying (105 C)		0.5	0.21	%
Magnesium (Mg)		5	0.6	ppm
pH of a 5% solution at 25 C	4.5	5.5	4.76	
Phosphate (PO4)		2	2	ppm
Residue after ignition		0.01	0.002	%
Sulfate (SO4)		0.002	0.002	%

Joe Schoellkopff

Quality Control Manager

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EMD Millipore Corporation
290 Concord Road
Billerica, MA 01821

Certificate of Analysis

Date of Release: ***5/12/2014***

Product: ***Ammonium Chloride GR ACS*** ***Catalog No.:*** ***AX1270 all size codes***

Grade: ***Meets ACS Specifications*** ***CAS #:*** ***12125-02-9***

Country of Origin: ***India*** ***FW:*** ***53.49***

Lot No.: ***XE09B*** ClH_4N

Characteristic	Requirement Minimum	Maximum	Results	UOM
Assay (argentometric)	99.5		99.8	%
Calcium (Ca)		0.001	0.0001	%
Form	White crystals		White crystals	
Heavy metals (as Pb)		5	5	ppm
Identification	To pass test		Passes	
Insoluble matter		0.005	0.002	%
Iron (Fe)		2	2	ppm
Loss on drying (105 C)		0.5	0.22	%
Magnesium (Mg)		5	0.7	ppm
pH of a 5% solution at 25 C	4.5	5.5	4.95	
Phosphate (PO4)		2	2	ppm
Residue after ignition		0.01	0.002	%
Sulfate (SO4)		0.002	0.002	%

Joe Schoellkopff

Quality Control Manager

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EMD Millipore Corporation
290 Concord Road
Billerica, MA 01821

ThermoFisher SCIENTIFIC

Certificate of Analysis

Product No.: 13450

Product: Potassium dichromate, ACS, 99.0% min

Lot No.: T15F019

Test	Limits	Results
Appearance	Orange-red crystals	Orange-red crystals
Identification	To Pass	Passes
Purity	99.0 % min	99.67 %
Insoluble matter	0.005 % max	0.004 %
Loss on drying	0.05 % max	0.03 %
Chloride	0.001 % max	< 0.001 %
Sulfate	0.005 % max	< 0.005 %
Iron	0.001 % max	< 0.001 %
Calcium	0.003 % max	0.0012 %
Sodium	0.02 % max	0.0047 %

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This is to certify that units of the lot number above were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the purchaser, formulator or those performing further manufacturing to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The above information is the actual analytical results obtained.

Sodium Bicarbonate, Powder
BAKER ANALYZED® A.C.S. Reagent

(sodium hydrogen carbonate)

Material No.: 3506-05
Batch No.: 0000240594
Manufactured Date: 2019/06/05
Retest Date: 2026/06/03
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($NaHCO_3$) (dried basis)	99.7 - 100.3 %	100.1
Insoluble Matter	<= 0.015 %	< 0.002
Chloride (Cl)	<= 0.003 %	0.003
Phosphate (PO_4)	<= 0.001 %	0.001
Sulfur Compounds (as SO_4)	<= 0.003 %	0.003
Calcium (Ca)	<= 0.02 %	0.02
Trace Impurities - Iron (Fe)	<= 0.001 %	0.001
Magnesium (Mg)	<= 0.005 %	0.005
Potassium (K)	<= 0.005 %	0.005
Ammonium (NH_4)	<= 5 ppm	5
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	5

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

Country of Origin: US
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

W2511 Received on 3/26/2019 by AP

Potassium Phosphate, Dibasic, Powder
BAKER ANALYZED® A.C.S. Reagent

(dipotassium hydrogen phosphate)

Material No.: 3252-01
Batch No.: 0000207436
Manufactured Date: 2018/05/01
Retest Date: 2025/04/29
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay (K_2HPO_4) (by acidimetry)	>= 98.0 %	99.2
Insoluble Matter	<= 0.01 %	< 0.01
Loss on Drying at 105°C	<= 1.0 %	< 1.0
pH of 5% Solution at 25°C	8.5 - 9.6	9.1
Chloride (Cl)	<= 0.003 %	< 0.003
Fluoride (F)	<= 0.001 %	< 0.001
Nitrogen Compounds (as N)	<= 0.001 %	< 0.001
Sulfate (SO_4)	<= 0.005 %	< 0.005
Trace Impurities - Iron (Fe)	<= 0.001 %	< 0.001
Sodium (Na)	<= 0.05 %	< 0.05
Trace Impurities - Arsenic (As)	<= 1.000 ppm	< 1.000
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	< 5
Trace Impurities - Lead (Pb)	<= 5.000 ppm	< 5.000
Color (APHA), For Information Only		5

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

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

ISO
Phillipsburg, NJ 9001:2015, FSSC22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Gliwice, Poland 9001:2015, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2015, 17025:2005
Panoli, India 9001:2015

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

ThermoFisher SCIENTIFIC

Certificate of Analysis

W2858 Received by AP on 07/07/2021

Product No.: 33213

Product: Phenol, ACS, 99+%, stab.

Lot No.: M13H048

Test	Limits	Results
Assay	99.0 % min	99.8 %
Freezing point	40.5ºC min	40.5 ºC
Clarity of solution	To pass test	Passes
Residue after evaporation	0.05 % max	< 0.05 %
Water	0.5 % max	0.2 %

Retest date: January 7, 2026

ThermoFisher SCIENTIFIC

Certificate of Analysis

W2666 Recived on 02/10/2020 by AP

Product No.: 87683

Product: Sodium pentacyanonitrosylferrate(III) dihydrate, ACS, 99.0-102.0%

Lot No.: W12F013

Test	Limits	Results
Assay	99.0 - 102.0 %	99.67 %
Insoluble	0.01 % max	0.0079 %
Chloride	0.02 % max	Not detected
Sulfate	To pass test	Passes test
Aqueous solubility	To pass test	Passes test
Limit on Ferricyanide	To pass test	Passes test
Limit on Ferrocyanide	To pass test	Passes test

~~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

Certificate Of Analysis

W 3058
Rec. 10/19/23 12

Date of Release: 1/27/2023

Name: **Sodium Carbonate, Anhydrous**
Powder, ACS
Item No: **SX0395 All Sizes**
Lot / Batch No: **2023012653**
Country of Origin: **India**

Item	Specifications	Analysis
Assay (calculated on dried substance)	99.5% min.	100.2%
Calcium (Ca)	0.03% max.	0.004%
Chloride (Cl)	0.001% max.	<0.001%
Color	White	Passes Test
Form	Powder	Passes Test
Heavy metals (by ICP-OES)	5 ppm max.	<5 ppm
Insoluble Matter	0.01% max.	0.003%
Iron (Fe)	5 ppm max.	<5 ppm
Loss on heating at 285C	1.0% max.	0.1%
Magnesium (Mg)	0.005% max.	0.0008%
Phosphate (PO4)	0.001% max.	<0.001%
Potassium (K)	0.005% max.	0.003%
Silica (SiO2)	0.005% max.	<0.005%
Sulfur compounds (as SO4)	0.003% max.	<0.003%

Joe Schoellkopff

Quality Control Manager

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

EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMD Millipore Corporation
400 Summit Drive
Burlington, MA 01803
U.S.A.

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Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
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F: 540-585-3012
info@inorganicventures.com

N 3062
NEC on 10/30/23
12

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Ion Chromatography Solution
Catalog Number:	300-CAL-A
Lot Number:	T2-MEB716667
Matrix:	H2O
Value / Analyte(s):	150 µg/mL ea: Sulfate,
	100 µg/mL ea: Bromide,
	50 µg/mL ea: o-Phosphate as P,
	30 µg/mL ea: Chloride, Nitrite as N,
	25 µg/mL ea: Nitrate as N,
	20 µg/mL ea: Fluoride

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Bromide, Br	**100.0 ± 0.5 µg/mL**	**Chloride, Cl**	**30.00 ± 0.13 µg/mL**
Fluoride, F-	**20.00 ± 0.06 µg/mL**	**Nitrate as N, NNO3-**	**25.00 ± 0.09 µg/mL**
Nitrite as N, NNO2-	**30.00 ± 0.15 µg/mL**	**o-Phosphate as P, PPO4**	**50.00 ± 0.30 µg/mL**
Sulfate, SO4	**150.0 ± 0.9 µg/mL**		

Density: 0.999 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Br	IC Assay	3184	151130
Br	Fajans	999c	999c
Cl	IC Assay	3182	060925
Cl	Fajans	999c	999c
Cl	Calculated		See Sec. 4.2
F-	IC Assay	3183	140203
NNO3-	IC Assay	3185	050517
NNO2-	IC Assay		traceable to 40h
PPO4	IC Assay	3186	170606
SO4	IC Assay	3181	080603

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 17, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 17, 2027

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES
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Certificate of Analysis

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W3063
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Ion Chromatography Solution
Catalog Number:	300-CAL-A
Lot Number:	U2-MEB735684
Matrix:	H2O
Value / Analyte(s):	150 µg/mL ea: Sulfate, 100 µg/mL ea: Bromide, 50 µg/mL ea: o-Phosphate as P, 30 µg/mL ea: Chloride, Nitrite as N, 25 µg/mL ea: Nitrate as N, 20 µg/mL ea: Fluoride

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Bromide, Br	100.0 ± 0.5 µg/mL	Chloride, Cl	30.00 ± 0.14 µg/mL
Fluoride, F-	20.00 ± 0.06 µg/mL	Nitrate as N, NNO3-	25.00 ± 0.09 µg/mL
Nitrite as N, NNO2-	30.00 ± 0.15 µg/mL	o-Phosphate as P, PPO4	50.00 ± 0.18 µg/mL
Sulfate, SO4	150.0 ± 0.8 µg/mL		

Density: 0.999 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Br	IC Assay	3184	151130
Br	Fajans	999c	999c
Cl	IC Assay	3182	190830
Cl	Fajans	999c	999c
F-	IC Assay	3183	140203
NNO3-	IC Assay	3185	170309
NNO2-	IC Assay		traceable to 40h
PPO4	IC Assay	3186	170606
SO4	IC Assay	3181	080603

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 10, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 10, 2028

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

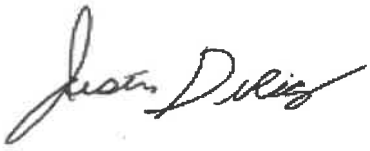
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Justin Dirico
Stock Processing Supervisor



Certificate Approved By:

Nicholas Plymale
Custom VSM Coordinator

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Certificate Of Analysis

Date of Release: 11/14/2019

W2700 Recived by AP on 3/11/2020

Name: **Sodium Borate, Decahydrate**
ACS

Item No: **SX0355 All Sizes**
Lot / Batch No: **2019111354**
Country of Origin: **India**

Item	Specifications	Analysis
Assay (Na2B4O7 • 10H2O)	99.5 - 105.0%	101.7%
Calcium (Ca)	0.005% max.	0.003%
Chloride (Cl)	0.001% max.	<0.001%
Color	White	Passes Test
Form	Crystals	Passes Test
Heavy Metals (as Pb)	0.001% max.	<0.001%
Insoluble Matter	0.005% max.	0.002%
Iron (Fe)	5 ppm max.	<5 ppm
pH of a 0.01 M solution at 25C	9.15 - 9.20	9.17
Phosphate (PO4)	0.001% max.	<0.001%
Sulfate (SO4)	0.005% max.	<0.005%

Joe Schoellkopff

Quality Control Manager

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

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EMD Millipore Corporation
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Burlington, MA 01803
U.S.A.

ThermoFisher SCIENTIFIC

Certificate of Analysis

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Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	P188	Quality Test / Release Date	08/12/2019
Lot Number	194664		
Description	POTASSIUM DICHROMATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Aug/2024
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		
Chemical Comment			

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Fine, orange-red crystals
ASSAY	%	>= 99	99.2
CALCIUM	%	<= 0.003	<0.003
CHLORIDE	%	<= 0.001	<0.001
LOSS ON DRYING @ 105 C	%	<= 0.05	<0.05
SULFATE (SO4)	%	<= 0.005	<0.005
INSOLUBLE MATTER	%	<= 0.005	0.003
IRON (Fe)	%	<= 0.001	<0.001
SODIUM (Na)	%	<= 0.02	<0.02
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST

Teresa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™ | J.T.Baker®

Material No.: 9254-03
Batch No.: 23H1462005
Manufactured Date: 2023-07-26
Expiration Date: 2026-07-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected for water)	≥ 99.4 %	99.7 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titrable Acid (µeq/g)	≤ 0.3	0.1
Titrable Base (µeq/g)	≤ 0.6	< 0.1
Water (H_2O)	≤ 0.5 %	0.3 %
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

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

Recd. by RP on 8/13/24

E 3788

Ken Koehnlein
Sr. Manager, Quality Assurance

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

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

MS954 MS955 MS956
MS957 MS958

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

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

Jamie Croak
Director Quality Operations, Bioscience Production

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

M 6041-46
MS

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

Nitric Acid 69%
CMOS

M6096
M6097
M6098
M6099
M6100

Mtdl 9/21/24

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

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

J Croak

Jamie Croak
Director Quality Operations, Bioscience Production

Subject to Vadodara Jurisdiction

CHAMPA PURIE-CHEM INDUSTRIES

ISO 9001 : 2015 CERTIFIED COMPANY

Importers Exporters Manufacturers & Marketing of Fine Chemicals & Pharmaceuticals

262-263, G.I.D.C. Estate,
Makarpura,
Vadodara - 390 010.
Gujarat - INDIA.

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Fax : (F) +91-265-2638036
E-mail : info@cpcindia.com
Web : www.cpcindia.com

W2708 Received on 05/05/20 by AP

CERTIFICATE OF ANALYSIS

PRODUCT : **POTASSIUM PHOSPHATE MONOBASIC Anhy. - ACS**

CERTIFICATE NO : 99/2019- 20 DATE 26-08-2019

Date of receipt of sample : 22.08.2019 Quantity : 1000 KGS

Batch No. /Lot No : 99/2019- 20

Mfg. Date : Aug-2019

1. Characteristic : A White powder

2. Identification : Positive

	RESULT OBTAINED	LIMITS
3. Clearity and colour of solution	: 10% solution is clear and colourless	
4. Assay (on dry basis)	: 99.27%	Min.99.00%
5. PH (5% solution)	: 4.4	4.1-4.5
6. Loss on Drying	: 0.1%	Max 0.2%
7. Heavy Metals	: 0.0003%	Max.0.001%
8. Iron	: 0.001%	Max 0.002%
9. Sulphate	: 0.001%	Max. 0.003%
10. Chloride	: 0.0005%	Max.0.001%
11. Insoluble Matter	: 0.003%	Max. 0.01%
12. Sodium	: 0.004%	Max. 0.005%

The sample does comply with specification as per Above.

Analysed by J.A.PATHAK

Quality Control Department

Sigma-Aldrich.

W 2979

Rec: 12/08/22

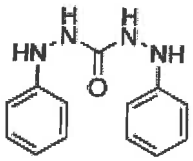
exp. 12/08/27

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:
1,5-Diphenylcarbazide - ACS reagent

Product Number:	**259225**
Batch Number:	**MKCR6636**
Brand:	SIAL
CAS Number:	140-22-7
MDL Number:	MFCD00003013
Formula:	C13H14N4O
Formula Weight:	242.28 g/mol
Quality Release Date:	02 JUN 2022



Test	Specification	Result
Appearance (Color) Off-White to Pink, Light Purple or Tan	Conforms to Requirements	Pink
Appearance (Form)	Powder or Chunks	Powder
Melting Point	173.0 - 176.0 °C	173.0 °C
Infrared Spectrum	Conforms to Structure	Conforms
Residue on ignition (Ash) 15 minutes, 800 Degrees Celsius	≤ 0.05 %	0.01 %
Solubility	Pass	Pass
Sensitivity Test	Pass	Pass
Meets ACS Requirements	Current ACS Specification	Conforms

Larry Coers, Director
Quality Control
Milwaukee, WI US

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.

spectrum® CHEMICAL MFG CORP

Certificate Of Analysis

Item Number	ED150	Lot Number	2ND0156
Item	Edetate Disodium, Dihydrate, USP	CAS Number	6381-92-6
Molecular Formula	$C_{10}H_{14}N_2Na_2O_8 \cdot 2H_2O$	Molecular Weight	372.24

TEST	SPECIFICATION		RESULT
	MIN	MAX	
ASSAY (DRIED BASIS)	99.0	101.0 %	99.5 %
pH OF A 5% SOLUTION @ 25°C	4.0	6.0	4.6
LOSS ON DRYING	8.7	11.4 %	8.90 %
CALCIUM (Ca)	NO PRECIPITATE IS FORMED		NO PRECIPITATE IS FORMED
ELEMENTAL IMPURITIES:			.
NICKEL (Ni)	AS REPORTED		<0.3 ppm
CHROMIUM (Cr)	AS REPORTED		<0.3 ppm
NITRILOTRIACETIC ACID[$n[(HOCOCH_2)_3N]$]		0.1 %	<0.10 %
IDENTIFICATION A	MATCHES REFERENCE		MATCHES REFERENCE
IDENTIFICATION B	RED COLOR IS DISCHARGED, LEAVING A YELLOWISH SOLUTION		RED COLOR IS DISCHARGED, LEAVING A YELLOWISH SOLUTION
IDENTIFICATION C	MEETS THE REQUIREMENTS FOR SODIUM		MEETS THE REQUIREMENTS FOR SODIUM
CERTIFIED HALAL			CERTIFIED HALAL
EXPIRATION DATE			10-JUL-2026
DATE OF MANUFACTURE			11-JUL-2023
APPEARANCE			WHITE CRYSTALLINE POWDER
RESIDUAL SOLVENTS		AS REPORTED	NO RESIDUAL SOLVENTS PRESENT
MONOGRAPH EDITION			USP 2024

Certificate of Analysis Results Entered By:

CACEVEDO
Charmian Acevedo
22-MAY-24 08:12:30

Certificate of Analysis Results Approved By:

GHERRERA
Genaro Herrera
22-MAY-24 12:32:01

Spectrum Chemical Mfg Corp
755 Jersey Avenue
New Brunswick 08901 NJ

All pharmaceutical ingredients are tested using current edition of applicable pharmacopeia.

Read and understand label and SDS before handling any chemicals. All Spectrum's chemicals are for manufacturing, processing, repacking or research purposes by experienced personnel only. It is the customer's responsibility to provide adequate hazardous material training and ensure that appropriate Personal Protective Equipment (PPE) is used before handling any chemical.

The Elemental Impurities standards implemented by USP and other Pharmaceutical Compendia reflect a growing understanding of the toxicology of trace levels of elemental impurities that can remain in drug substances originating from either raw materials or manufacturing processes. Identifying and quantifying impurities can be critical to predicting the best possible patient outcomes. Elemental Impurities has been a requirement of all products meeting USP/NF, EP and BP monographs since January 1, 2018. More information can be found in USP sections <232> Elemental Impurities – Limits and <233> Elemental Impurities – Procedures. Data for drug substances furnished by Spectrum Chemical Mfg. Corp can be used to ensure that patient daily exposures by oral administration to the selected elements are not exceeded in the formulation of pharmaceutical products.

RICCA CHEMICAL COMPANY®

1841 Broad Street
Pocomoke City, MD 21851
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Sodium Hypochlorite Solution, 5% available Chlorine

Lot Number: 2407F34 **Product Number:** 7495.5

Manufacture Date: JUL 12, 2024
Expiration Date: JAN 2025

This solution is subject to slow decomposition upon exposure to air. Keep container tightly capped. Refrigeration may improve stability. When used in the Phenate method for Ammonia, APHA recommends replacing this solution about every 2 months.

Name	CAS#	Grade
Water	7732-18-5	Commercial
Sodium Hypochlorite	7681-52-9	Commercial

Test	Specification	Result	NIST SRM#
Appearance	Colorless to greenish-yellow liquid	Passed	
Assay (vs. Sodium Thiosulfate/Starch)	4.75-5.25 % (w/w) Cl_2	5.05 % (w/w) Cl_2	136

Specification	Reference
Sodium Hypochlorite, 5%	APHA (4500-NH3 F)
Sodium Hypochlorite	ASTM (D 4785)

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)
7495.5-1	4 L black poly	6 months
7495.5-16	500 mL amber poly	6 months
7495.5-32	1 L amber poly	6 months
7495.5-8	250 mL amber poly	6 months

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

Jose Pena (07/12/2024)
Operations Manager

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 11/15/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 16:50
In Date: 11/14/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:14
Out Date: 11/15/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB133451

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
P4839-01	EX-9-TPH-9	1	1.14	8.58	9.72	8.44	85.1	
P4839-02	EX-9-TPH-10	2	1.15	8.54	9.69	8.61	87.4	
P4839-03	EX-9-TPH-11	3	1.18	8.53	9.71	8.55	86.4	
P4839-04	EX-9-TPH-12	4	1.15	8.82	9.97	8.85	87.3	
P4839-05	EX-9-TPH-13	5	1.12	8.70	9.82	8.64	86.4	
P4839-06	EX-9-TPH-14	6	1.15	8.82	9.97	8.9	87.9	
P4839-07	EX-9-TPH-15	7	1.15	8.40	9.55	8.1	82.7	
P4839-08	EX-9-TPH-16	8	1.15	8.83	9.98	8.54	83.7	
P4839-09	EX-9-TPH-17	9	1.15	8.82	9.97	9.06	89.7	
P4839-10	EX-9-TPH-18	10	1.12	8.87	9.99	8.13	79.0	
P4839-11	EX-9-TPH-19	11	1.16	8.73	9.89	8.43	83.3	
P4839-12	EX-9-TPH-20	12	1.14	8.80	9.94	8.11	79.2	
P4839-13	EX-9-TPH-21	13	1.16	8.47	9.63	7.99	80.6	
P4839-14	EX-10-TPH-1	14	1.14	8.56	9.7	8.41	84.9	
P4839-15	EX-10-TPH-2	15	1.18	8.80	9.98	8.57	84.0	
P4839-16	EX-10-TPH-3	16	1.17	8.60	9.77	7.84	77.6	
P4839-17	EX-4-TPH-1	17	1.13	8.80	9.93	8.51	83.9	
P4839-18	EX-4-TPH-2	18	1.13	8.81	9.94	8.69	85.8	
P4839-19	EX-4-TPH-3	19	1.15	8.82	9.97	8.58	84.2	
P4839-20	EX-4-TPH-4	20	1.17	8.40	9.57	8.22	83.9	
P4839-21	EX-4-TPH-5	21	1.18	8.81	9.99	8.65	84.8	
P4839-22	EX-4-TPH-6	22	1.15	8.82	9.97	9.04	89.5	
P4848-01	TP-1	26	1.17	8.58	9.75	8.49	85.3	
P4849-01	RR-1	27	1.18	8.64	9.82	8.88	89.1	
P4850-01	OR-03-11142024	28	1.15	8.53	9.68	9.11	93.3	
P4850-02	OR-03-11142024-E2	29	1.18	8.60	9.78	8.81	88.7	
P4852-01	COMP-1	23	1.16	8.45	9.61	8.19	83.2	
P4852-02	COMP-2	24	1.17	8.60	9.77	8.17	81.4	

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 11/15/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 16:50
In Date: 11/14/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:14
Out Date: 11/15/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB133451

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
P4852-03	COMP-3	25	1.15	8.81	9.96	8.94	88.4	
P4857-01	ETGI-328	30	1.16	8.50	9.66	8.75	89.3	
P4857-02	ETGI-328-E2	31	1.00	1.00	2.00	2.00	100.0	debris
P4857-03	VNJ-226	32	1.18	8.72	9.9	9.37	93.9	
P4857-04	VNJ-226-E2	33	1.15	8.76	9.91	9.38	93.9	
P4858-01	BC258780-1-1	34	1.00	1.00	2.00	2.00	100.0	pilc
P4858-02	BC258780-1-2	35	1.00	1.00	2.00	2.00	100.0	pilc
P4858-03	BC258780-2-1	36	1.00	1.00	2.00	2.00	100.0	pilc
P4858-04	BC258780-2-2	37	1.00	1.00	2.00	2.00	100.0	pilc
P4858-05	HIH269B-1-1	38	1.00	1.00	2.00	2.00	100.0	pilc
P4858-06	HIH269B-1-2	39	1.00	1.00	2.00	2.00	100.0	pilc
P4858-07	BC225734-1-1	40	1.00	1.00	2.00	2.00	100.0	pilc
P4858-08	BC225734-1-2	41	1.00	1.00	2.00	2.00	100.0	pilc
P4858-09	BC225734-2-1	42	1.00	1.00	2.00	2.00	100.0	pilc
P4858-10	BC225734-2-2	43	1.00	1.00	2.00	2.00	100.0	pilc
P4858-11	BC248150-1-1	44	1.00	1.00	2.00	2.00	100.0	pilc
P4858-12	BC248150-1-2	45	1.00	1.00	2.00	2.00	100.0	pilc
P4858-13	Y2309-0044-1-1	46	1.00	1.00	2.00	2.00	100.0	pilc
P4858-14	Y2309-0044-1-2	47	1.00	1.00	2.00	2.00	100.0	pilc
P4858-15	BC274768-1-1	48	1.00	1.00	2.00	2.00	100.0	pilc
P4858-16	BC274768-1-2	49	1.00	1.00	2.00	2.00	100.0	pilc
P4858-17	BC274601-1-1	50	1.00	1.00	2.00	2.00	100.0	pilc
P4858-18	BC274601-1-2	51	1.00	1.00	2.00	2.00	100.0	pilc
P4859-01	NB-08-111424	52	1.18	8.54	9.72	9.03	91.9	
P4859-02	NB-08-111424-E2	53	1.19	8.52	9.71	9.04	92.1	

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

WORKLIST(Hardcopy Internal Chain)

VB 133451

WorkList Name : %1-111424 **WorkList ID :** 185415 **Department :** Wet-Chemistry **Date :** 11-14-2024 07:57:24

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4839-01	EX-9-TPH-9	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-02	EX-9-TPH-10	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-03	EX-9-TPH-11	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-04	EX-9-TPH-12	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-05	EX-9-TPH-13	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-06	EX-9-TPH-14	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-07	EX-9-TPH-15	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-08	EX-9-TPH-16	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-09	EX-9-TPH-17	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-10	EX-9-TPH-18	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-11	EX-9-TPH-19	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-12	EX-9-TPH-20	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-13	EX-9-TPH-21	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-14	EX-10-TPH-1	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-15	EX-10-TPH-2	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-16	EX-10-TPH-3	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-17	EX-4-TPH-1	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-18	EX-4-TPH-2	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-19	EX-4-TPH-3	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-20	EX-4-TPH-4	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4839-21	EX-4-TPH-5	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO

Date/Time 11-14-24 16:10

Raw Sample Received by: JD (WC)

Raw Sample Relinquished by: RS (Ext-Lab)

Date/Time 11-14-24 17:10

Raw Sample Received by: RS (Ext-Lab)

Raw Sample Relinquished by: JD (WC)

WORKLIST(Hardcopy Internal Chain)

VB 133451

WorkList Name : %1-111424 **WorkList ID :** 185415 **Department :** Wet-Chemistry **Date :** 11-14-2024 07:57:24

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4839-22	EX-4-TPH-6	Solid	Percent Solids	Cool 4 deg C	ENTA05	L31	11/13/2024	Chemtech -SO
P4848-01	TP-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	11/14/2024	Chemtech -SO
P4849-01	RR-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	11/14/2024	Chemtech -SO
P4850-01	OR-03-11142024	Solid	Percent Solids	Cool 4 deg C	PSEG05	L11	11/14/2024	Chemtech -SO
P4850-02	OR-03-11142024-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	L11	11/14/2024	Chemtech -SO
P4852-01	COMP-1	Solid	Percent Solids	Cool 4 deg C	POWE02	L41	11/13/2024	Chemtech -SO
P4852-02	COMP-2	Solid	Percent Solids	Cool 4 deg C	POWE02	L41	11/13/2024	Chemtech -SO
P4852-03	COMP-3	Solid	Percent Solids	Cool 4 deg C	POWE02	L41	11/13/2024	Chemtech -SO
P4857-01	ETGI-328	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	11/14/2024	Chemtech -SO
P4857-02	ETGI-328-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	11/14/2024	Chemtech -SO
P4857-03	VNJ-226	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	11/14/2024	Chemtech -SO
P4857-04	VNJ-226-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	11/14/2024	Chemtech -SO
P4858-01	BC258780-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-02	BC258780-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-03	BC258780-2-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-04	BC258780-2-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-05	HIH269B-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-06	HIH269B-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-07	BC225734-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-08	BC225734-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-09	BC225734-2-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO

Date/Time 11-14-24 16:10

Raw Sample Received by: [signature]

Raw Sample Relinquished by: RS (ESC Lab)

Date/Time 11-24-24 17:10

Raw Sample Received by: RS (ESC Lab)

Raw Sample Relinquished by: [signature]

WORKLIST(Hardcopy Internal Chain)

JB 133451

WorkList Name : %1-111424 **WorkList ID :** 185415 **Department :** Wet-Chemistry **Date :** 11-14-2024 07:57:24

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4858-10	BC225734-2-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-11	BC248150-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-12	BC248150-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-13	Y2309-0044-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-14	Y2309-0044-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-15	BC274768-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-16	BC274768-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-17	BC274601-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4858-18	BC274601-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L31	11/14/2024	Chemtech -SO
P4859-01	NB-08-111424	Solid	Percent Solids	Cool 4 deg C	PSEG05	L41	11/14/2024	Chemtech -SO
P4859-02	NB-08-111424-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	L41	11/14/2024	Chemtech -SO

Date/Time 11-14-24 1610

Raw Sample Received by: [signature]

Raw Sample Relinquished by: RS (Ext-Lab)

Date/Time 11-14-24 1710

Raw Sample Received by: RS (Ext-Lab)

Raw Sample Relinquished by: [signature]

SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. QUOTE NO. P4852
COC Number 2042294

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Kleinfelder
ADDRESS: 2 S Gold Drive
CITY Hamilton STATE: NJ ZIP: 08691
ATTENTION: Mark Warchol
PHONE: 609-584-5271 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: Webster School
PROJECT NO.: 25001986.001A LOCATION: Philadelphia, PA
PROJECT MANAGER: Mark Warchol
e-mail: mwarchol@kleinfelder.com
PHONE: 484-883-3892 FAX:

CLIENT BILLING INFORMATION

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

DATA TURNAROUND INFORMATION

FAX (RUSH) 5 DAYS*
HARDCOPY (DATA PACKAGE): 5 DAYS*
EDD: 5 DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

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

ANALYSIS

PA TPC Clean Parameters Hold

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1.	COMP-1	Soil	✓		11/13/24	9:40	3	✓									
2.	COMP-2	↓	↓		↓	10:20	↓	↓									
3.	COMP-3	↓	↓		↓	10:50	↓	↓									
4.	~~SB-1~~ JC	↓		✓	↓		1		✓								
5.	SB-2	↓		↓	↓	9:25	↓		↓								
6.	SB-3	↓		↓	↓	9:30	↓		↓								
7.	SB-4	↓		↓	↓	9:35	↓		↓								
8.	SB-5	↓		↓	↓	9:45	↓		↓								
9.	SB-6	↓		↓	↓	9:50	↓		↓								
10.	SB-7	↓		↓	↓	9:55	↓		↓								

PRESERVATIVES: 1 = E, 2 = E

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

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

	RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1.		11/13/24 15:15	
2.		11-14-24 1049	
3.			

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 5.3 °C
Comments: Place all grab samples on hold, no analysis until further notice
TR Cont #1

Page 1 of 2

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

Shipment Complete ☐ YES ☐ NO

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

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. P4852
QUOTE NO.
COC Number 2042293

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Kleinfelder
ADDRESS: 2 S Gold Drive
CITY Hamilton STATE: NJ ZIP: 08691
ATTENTION: Mark Warchol
PHONE: 609-584-5271 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: Webster School
PROJECT NO.: 20001986.001A LOCATION: Philadelphia, PA
PROJECT MANAGER: Mark Warchol
e-mail: mwarchol@kleinfelder.com
PHONE: 484-883-3892 FAX:

CLIENT BILLING INFORMATION

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

DATA TURNAROUND INFORMATION

FAX (RUSH) 5 DAYS*
HARDCOPY (DATA PACKAGE): 5 DAYS*
EDD: 5 DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

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

ANALYSIS

PRESERVATIVES: E

1	2	3	4	5	6	7	8	9
Hold								

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

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1	2	3	4	5	6	7	8	9	COMMENTS
1.	SB-8	Soil		✓	11/13/24	10:15	1	✓									
2.	SB-9	↓		↓	↓	10:25	↓	↓									
3.	SB-10					10:30											
4.	SB-11					10:40											
5.	SB-12			↓	↓	10:45	↓	↓									
6.																	
7.																	
8.																	
9.																	
10.																	

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

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1.	11/13/24 15:15	1.
2.	11-14-24 1049	2.
3.		3.

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 5.3-C °C
Comments: Place all grab samples on hold, no analysis until further notice

Page 2 of 2

CLIENT: ☐ Hand Delivered ☑ Other Fed Ex
CHEMTECH: ☐ Picked Up ☐ Field Sampling

Shipment Complete ☐ YES ☐ NO

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

CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488

Alliance TECHNICAL GROUP

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : P4852 POWE02
Client Name : Kleinfelder
Client Contact : Mark Warchol
Invoice Name : Kleinfelder
Invoice Contact : Mark Warchol

Order Date : 11/14/2024 11:23:00 AM
Project Name : Webster School
Receive DateTime : 11/14/2024 10:49:00 AM
Purchase Order :

Project Mgr :
Report Type : Results+QC
EDD Type : EXCEL NOCLEANUP
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
P4852-01	COMP-1	Solid	11/13/2024	09:40					
					VOCMS Group1		8260D		5 Bus. Days
P4852-02	COMP-2	Solid	11/13/2024	10:20					
					VOCMS Group1		8260D		5 Bus. Days
P4852-03	COMP-3	Solid	11/13/2024	10:50					
					VOCMS Group1		8260D		5 Bus. Days

Relinguished By : _____
Date / Time : 11-14-24 1233

Received By : _____
Date / Time : 11-14-24 12:33

Storage Area : VOA Refridgerator Room