

Cover Page

Order ID : Q1666

Project ID : 540 Degraw St, Brooklyn, NY - E9309

Client : ENTACT

Lab Sample Number

Q1666-01

Client Sample Number

TW-WTS-05

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

Signature : _____

Date: 4/2/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1666

Completed

For thorough review, the report must have the following:

GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: PRADIP PRAJAPATI

Date: 04/02/2025

LAB CHRONICLE

OrderID:	Q1666	OrderDate:	3/27/2025 1:05:00 PM
Client:	ENTACT	Project:	540 Degraw St, Brooklyn, NY - E9309
Contact:	Jarod Stanfield	Location:	I31,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1666-01	TW-WTS-05	WATER			03/25/25 10:00			03/27/25
			Anions Group2	300.0			03/28/25 11:13	
			BOD5	SM5210 B			03/28/25 12:20	
			Flash Point	1010B			04/01/25 11:30	
			TSS	SM2540 D			04/03/25 09:30	
Q1666-01DL	TW-WTS-05DL	WATER			03/25/25 10:00			03/27/25
			Anions Group2	300.0			03/28/25 12:18	



SAMPLE DATA

Report of Analysis

Client:	ENTACT	Date Collected:	03/25/25 10:00
Project:	540 Degraw St, Brooklyn, NY - E9309	Date Received:	03/27/25
Client Sample ID:	TW-WTS-05	SDG No.:	Q1666
Lab Sample ID:	Q1666-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	51.4	OR	1	0.19	0.60	mg/L		03/28/25 11:13	300.0
BOD5	132	H	1	0.20	2.00	mg/L		03/28/25 12:20	SM 5210 B-16
Flash Point	>212		1	0	0	o F		04/01/25 11:30	1010B
TSS	10.4	H	1	1.00	4.00	mg/L		04/03/25 09:30	SM 2540 D-15

Comments: Other method reference for flash point : Pensky-Martens Closed Cup Flash Point ASTM D 93 - IP 34

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

Report of Analysis

Client:	ENTACT	Date Collected:	03/25/25 10:00
Project:	540 Degraw St, Brooklyn, NY - E9309	Date Received:	03/27/25
Client Sample ID:	TW-WTS-05DL	SDG No.:	Q1666
Lab Sample ID:	Q1666-01DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	42.1	D	20	3.80	12.0	mg/L		03/28/25 12:18	300.0

Comments: _____

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N = Spiked sample recovery not within control limits



QC RESULT SUMMARY

Initial and Continuing Calibration Verification

Client: ENTACT

SDG No.: Q1666

Project: 540 Degraw St, Brooklyn, NY - E9309

RunNo.: LB135226

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1						
Bromide	mg/L	10.4	10	104	90-110	03/21/2025
Chloride	mg/L	3	3	100	90-110	03/21/2025
Fluoride	mg/L	2	2	100	90-110	03/21/2025
Nitrite	mg/L	3.1	3	103	90-110	03/21/2025
Nitrate	mg/L	2.6	2.5	104	90-110	03/21/2025
Sulfate	mg/L	15.3	15	102	90-110	03/21/2025
Orthophosphate as P	mg/L	5.2	5	104	90-110	03/21/2025
Sample ID: CCV1						
Bromide	mg/L	10.7	10	107	90-110	03/28/2025
Chloride	mg/L	3.2	3	107	90-110	03/28/2025
Fluoride	mg/L	2.1	2	105	90-110	03/28/2025
Nitrite	mg/L	3.2	3	107	90-110	03/28/2025
Nitrate	mg/L	2.6	2.5	104	90-110	03/28/2025
Sulfate	mg/L	15.5	15	103	90-110	03/28/2025
Orthophosphate as P	mg/L	5.4	5	108	90-110	03/28/2025
Sample ID: CCV2						
Bromide	mg/L	10.7	10	107	90-110	03/28/2025
Chloride	mg/L	3.2	3	107	90-110	03/28/2025
Fluoride	mg/L	2.1	2	105	90-110	03/28/2025
Nitrite	mg/L	3.2	3	107	90-110	03/28/2025
Nitrate	mg/L	2.6	2.5	104	90-110	03/28/2025
Sulfate	mg/L	15.6	15	104	90-110	03/28/2025
Orthophosphate as P	mg/L	5.4	5	108	90-110	03/28/2025

Initial and Continuing Calibration Verification

Client: ENTACT

SDG No.: Q1666

Project: 540 Degraw St, Brooklyn, NY - E9309

RunNo.: LB135236

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV						
Flash Point	o F	82.4	81	102	78-84	04/01/2025

Initial and Continuing Calibration Blank Summary

Client: ENTACT

SDG No.: Q1666

Project: 540 Degraw St, Brooklyn, NY - E9309

RunNo.: LB135226

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.37	2	03/21/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	03/21/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	03/21/2025
Nitrite	mg/L	0.08	0.3000	J	0.074	0.6	03/21/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	03/21/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	03/21/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	03/21/2025
Sample ID: CCB1							
Bromide	mg/L	< 1.0000	1.0000	U	0.37	2	03/28/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	03/28/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	03/28/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.074	0.6	03/28/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	03/28/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	03/28/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	03/28/2025
Sample ID: CCB2							
Bromide	mg/L	< 1.0000	1.0000	U	0.37	2	03/28/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	03/28/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	03/28/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.074	0.6	03/28/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	03/28/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	03/28/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	03/28/2025

Preparation Blank Summary

Client: ENTACT

SDG No.: Q1666

Project: 540 Degraw St, Brooklyn, NY - E9309

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB135226BLW							
Bromide	mg/L	< 1.0000	1.0000	U	0.37	2	03/28/2025
Chloride	mg/L	< 0.3000	0.3000	U	0.19	0.6	03/28/2025
Fluoride	mg/L	< 0.2000	0.2000	U	0.11	0.4	03/28/2025
Nitrite	mg/L	< 0.3000	0.3000	U	0.074	0.6	03/28/2025
Nitrate	mg/L	< 0.2500	0.2500	U	0.095	0.5	03/28/2025
Sulfate	mg/L	< 1.5000	1.5000	U	0.46	3	03/28/2025
Orthophosphate as P	mg/L	< 0.5000	0.5000	U	0.34	1	03/28/2025
Sample ID: LB135227BL							
BOD5	mg/L	< 0.2000	0.2000	U	0.20	2.0	03/28/2025
Sample ID: LB135277BL							
TSS	mg/L	1	2.0000	J	1	4	04/03/2025

Matrix Spike Summary

Client:	ENTACT	SDG No.:	Q1666
Project:	540 Degraw St, Brooklyn, NY - E9309	Sample ID:	Q1666-01
Client ID:	TW-WTS-05MS	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Bromide	mg/L	80-120	12.4		1.00	J	10	1	114		03/28/2025
Chloride	mg/L	80-120	52.5	OR	51.4	OR	3	1	37	*	03/28/2025
Fluoride	mg/L	80-120	2.40		0.52		2	1	94		03/28/2025
Nitrite	mg/L	80-120	3.10		0.20	J	3	1	97		03/28/2025
Nitrate	mg/L	80-120	2.60		0.18	J	2.5	1	97		03/28/2025
Sulfate	mg/L	80-120	1110	OR	1150	OR	15	1	-267	*	03/28/2025
Orthophosphate as P	mg/L	80-120	5.10		0.34	U	5	1	102		03/28/2025

Matrix Spike Summary

Client:	ENTACT	SDG No.:	Q1666
Project:	540 Degraw St, Brooklyn, NY - E9309	Sample ID:	Q1666-01
Client ID:	TW-WTS-05MSD	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Bromide	mg/L	80-120	12.3		1.00	J	10	1	113		03/28/2025
Chloride	mg/L	80-120	52.6	OR	51.4	OR	3	1	40	*	03/28/2025
Fluoride	mg/L	80-120	2.40		0.52		2	1	94		03/28/2025
Nitrite	mg/L	80-120	3.10		0.20	J	3	1	97		03/28/2025
Nitrate	mg/L	80-120	2.60		0.18	J	2.5	1	97		03/28/2025
Sulfate	mg/L	80-120	1110	OR	1150	OR	15	1	-267	*	03/28/2025
Orthophosphate as P	mg/L	80-120	5.20		0.34	U	5	1	104		03/28/2025

Duplicate Sample Summary

Client:	ENTACT	SDG No.:	Q1666
Project:	540 Degraw St, Brooklyn, NY - E9309	Sample ID:	Q1666-01
Client ID:	TW-WTS-05DUP	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Flash Point	o F	+/-2	>212.0		>212.0		1	0		04/01/2025

Duplicate Sample Summary

Client: ENTACT	SDG No.: Q1666
Project: 540 Degraw St, Brooklyn, NY - E9309	Sample ID: Q1666-01
Client ID: TW-WTS-05MSD	Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Fluoride	mg/L	+/-20	2.40		2.40		1	0		03/28/2025
Nitrate	mg/L	+/-20	2.60		2.60		1	0		03/28/2025
Nitrite	mg/L	+/-20	3.10		3.10		1	0		03/28/2025
Chloride	mg/L	+/-20	52.5	OR	52.6	OR	1	0		03/28/2025
Sulfate	mg/L	+/-20	1110	OR	1110	OR	1	0		03/28/2025
Bromide	mg/L	+/-20	12.4		12.3		1	1		03/28/2025
Orthophosphate as P	mg/L	+/-20	5.10		5.20		1	2		03/28/2025

Duplicate Sample Summary

Client:	ENTACT	SDG No.:	Q1666
Project:	540 Degraw St, Brooklyn, NY - E9309	Sample ID:	Q1703-02
Client ID:	COMPDUP	Percent Solids for Spike Sample:	0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
TSS	mg/L	+/-5	674		655		1	2.86		04/03/2025

Laboratory Control Sample Summary

Client: ENTACT

SDG No.: Q1666

Project: 540 Degraw St, Brooklyn, NY - E9309

Run No.: LB135226

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB135226BSW							
Bromide	mg/L	10	10.7		107	1	90-110	03/28/2025
Chloride	mg/L	3	3.20		107	1	90-110	03/28/2025
Fluoride	mg/L	2	2.10		105	1	90-110	03/28/2025
Nitrite	mg/L	3	3.20		107	1	90-110	03/28/2025
Nitrate	mg/L	2.5	2.60		104	1	90-110	03/28/2025
Sulfate	mg/L	15	15.5		103	1	90-110	03/28/2025
Orthophosphate as P	mg/L	5	5.40		108	1	90-110	03/28/2025

Laboratory Control Sample Summary

Client: ENTACT

SDG No.: Q1666

Project: 540 Degraw St, Brooklyn, NY - E9309

Run No.: LB135227

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB135227BS							
BOD5	mg/L	198	192		97	1	84.6-115.4	03/28/2025

Laboratory Control Sample Summary

Client: ENTACT

SDG No.: Q1666

Project: 540 Degraw St, Brooklyn, NY - E9309

Run No.: LB135277

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB135277BS							
TSS	mg/L	550	532		97	1	90-110	04/03/2025



RAW DATA

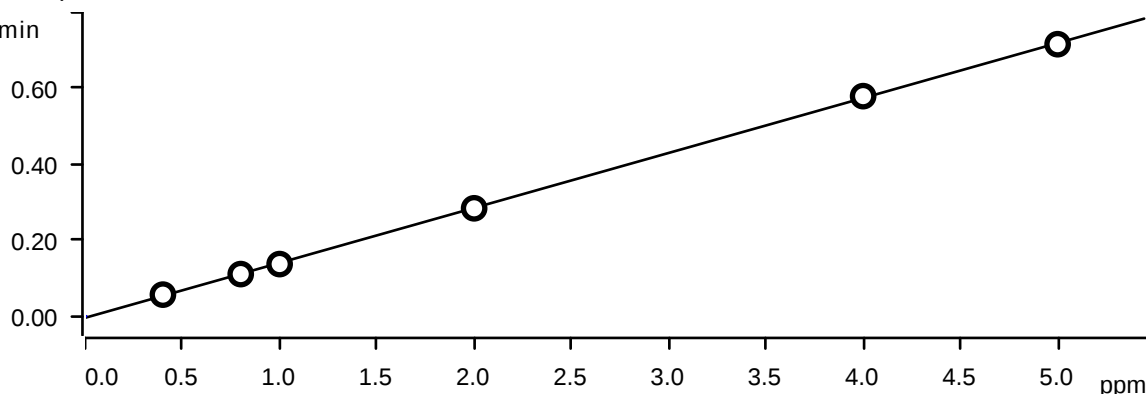
Instrument ID				Analyst :		NF		Method: 00.0 / 9056A				
Ident	Con F-	Con CL-		Con NO2	Con BR-	Con NO3	Con HPO4	Con SO4	Method name	date time	nlwt/Fin	Analyst
STD1	0	0	0	0	0	0	0	0	IC1-032125	3/21/2025 10:45	10	NF/IZ
STD2	0.421	0.619	0.631	0.631	2.075	0.523	1.052	3.247	IC1-032125	3/21/2025 11:07	10	NF/IZ
STD3	0.795	1.199	1.203	1.203	3.994	1.001	1.993	5.998	IC1-032125	3/21/2025 11:28	10	NF/IZ
STD4	0.977	1.475	1.468	1.468	4.904	1.226	2.407	7.216	IC1-032125	3/21/2025 11:50	10	NF/IZ
STD5	1.993	3.009	2.995	2.995	10.03	2.493	4.968	14.842	IC1-032125	3/21/2025 12:11	10	NF/IZ
STD6	4.034	5.988	5.986	5.986	19.975	5.011	10.256	30.502	IC1-032125	3/21/2025 12:32	10	NF/IZ
STD7	4.979	7.51	7.517	7.517	25.022	6.247	12.323	36.695	IC1-032125	3/21/2025 12:54	10	NF/IZ
ICV	2.031	3.038	3.08	3.08	10.364	2.568	5.199	15.269	IC1-032125	3/21/2025 13:37	10	NF/IZ
ICB	0	0.122	0.08	0.08	0	0	0	0	IC1-032125	3/21/2025 13:58	10	NF/IZ
CCV	2.107	3.167	3.17	3.17	10.669	2.647	5.399	15.534	IC1-032125	3/28/2025 9:47	10	NF/IZ
CCB	0	0	0	0	0	0	0	0	IC1-032125	3/28/2025 10:09	10	NF/IZ
LB135226BLW	0	0	0	0	0	0	0	0	IC1-032125	3/28/2025 10:30	10	NF/IZ
LB135226BSW	2.106	3.167	3.176	3.176	10.665	2.641	5.394	15.493	IC1-032125	3/28/2025 10:52	10	NF/IZ
Q1666-01	0.517	51.367	0.197	0.197	1.015	0.176	0	1147.725	IC1-032125	3/28/2025 11:13	10	NF/IZ
Q1666-01MS	2.432	52.503	3.104	3.104	12.405	2.618	5.138	1107.814	IC1-032125	3/28/2025 11:35	10	NF/IZ
Q1666-01MSD	2.436	52.625	3.114	3.114	12.343	2.621	5.16	1110.01	IC1-032125	3/28/2025 11:57	10	NF/IZ
Q1666-01DLX20	0.05	2.103	0	0	1.534	0	0	41.122	IC1-032125	3/28/2025 12:18	10	NF/IZ
CCV	2.101	3.166	3.187	3.187	10.748	2.647	5.445	15.57	IC1-032125	3/28/2025 12:40	10	NF/IZ
CCB	0	0	0	0	0	0	0	0	IC1-032125	3/28/2025 13:01	10	NF/IZ

Clear table

Instrument ID: IC-2 Analyst : IZ Method: 300.0 / 9056A											
ident	concentra tion F-	concentratio n CL-	concentratio on NO2	concentratio on BR-	concentratio on NO3	concentratio on HPO4	concentratio on SO4	file name	date time	Initial wt/ Final	Analyst
STD1	0	0	0	0	0	0	0	0 IC1-032125	3/21/2025 10:45	10	NF/IZ
STD2	0.421	0.619	0.631	2.075	0.523	1.052	3.247	IC1-032125	3/21/2025 11:07	10	NF/IZ
STD3	0.795	1.199	1.203	3.994	1.001	1.993	5.998	IC1-032125	3/21/2025 11:28	10	NF/IZ
STD4	0.977	1.475	1.468	4.904	1.226	2.407	7.216	IC1-032125	3/21/2025 11:50	10	NF/IZ
STD5	1.993	3.009	2.995	10.03	2.493	4.968	14.842	IC1-032125	3/21/2025 12:11	10	NF/IZ
STD6	4.034	5.988	5.986	19.975	5.011	10.256	30.502	IC1-032125	3/21/2025 12:32	10	NF/IZ
STD7	4.979	7.51	7.517	25.022	6.247	12.323	36.695	IC1-032125	3/21/2025 12:54	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	5.2500	3.1667	5.1667	3.7500	4.6000	5.2000	8.2333				
STD3	-0.6250	-0.0833	0.2500	-0.1500	0.1000	-0.3500	-0.0333				
STD4	-2.3000	-1.6667	-2.1333	-1.9200	-1.9200	-3.7200	-3.7867				
STD5	-0.3500	0.3000	-0.1667	0.3000	-0.2800	-0.6400	-1.0533				
STD6	0.8500	-0.2000	-0.2333	-0.1250	0.2200	2.5600	1.6733				
STD7	-0.4200	0.1333	0.2267	0.0880	-0.0480	-1.4160	-0.8243				

Fluoride (Anions)

($\mu\text{S}/\text{cm}$) x min



Function: $A = -4.00269E-3 + 0.0144679 \times Q$

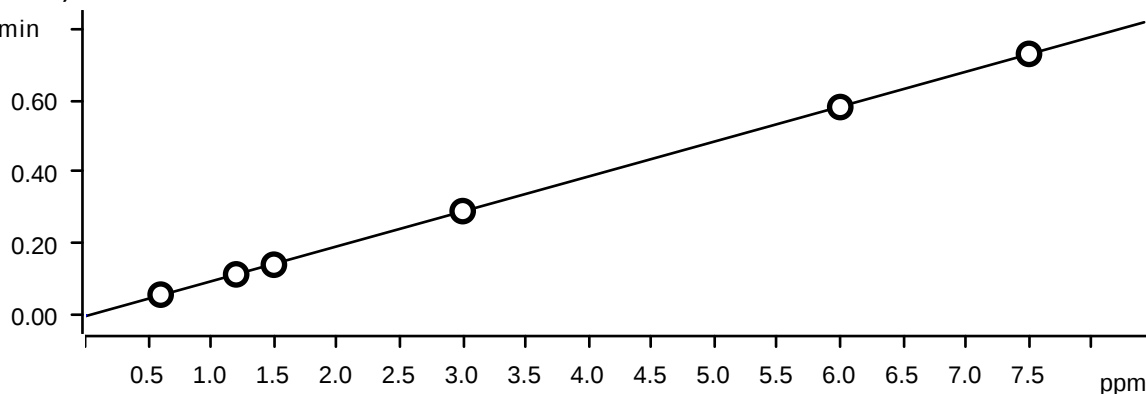
Relative standard deviation 1.180947 %

Correlation coefficient 0.999926

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	0.400	10.0	1.0	1.0	0.057	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	0.800	10.0	1.0	1.0	0.111	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	1.000	10.0	1.0	1.0	0.137	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	2.000	10.0	1.0	1.0	0.284	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	4.000	10.0	1.0	1.0	0.580	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	5.000	10.0	1.0	1.0	0.716	STD7	2025-03-21 12:54:24 UTC-4	used

Chloride (Anions)

($\mu\text{S}/\text{cm}$) x min

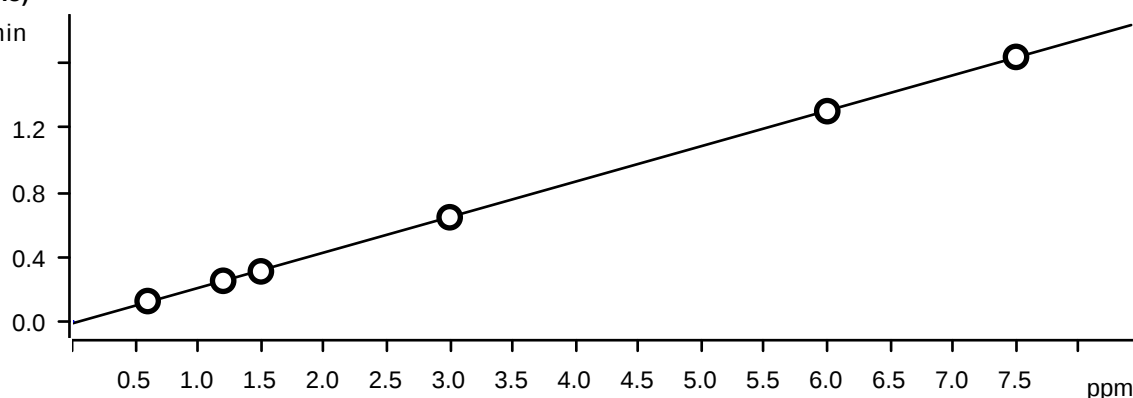


Function: $A = -2.25189E-3 + 9.74103E-3 \times Q$

Relative standard deviation 0.547466 %

Correlation coefficient 0.999984

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	0.600	10.0	1.0	1.0	0.058	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	1.200	10.0	1.0	1.0	0.115	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	1.500	10.0	1.0	1.0	0.141	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	3.000	10.0	1.0	1.0	0.291	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	6.000	10.0	1.0	1.0	0.581	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	7.500	10.0	1.0	1.0	0.729	STD7	2025-03-21 12:54:24 UTC-4	used

Nitrite (Anions) $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -0.0127504 + 0.0219707 \times Q$

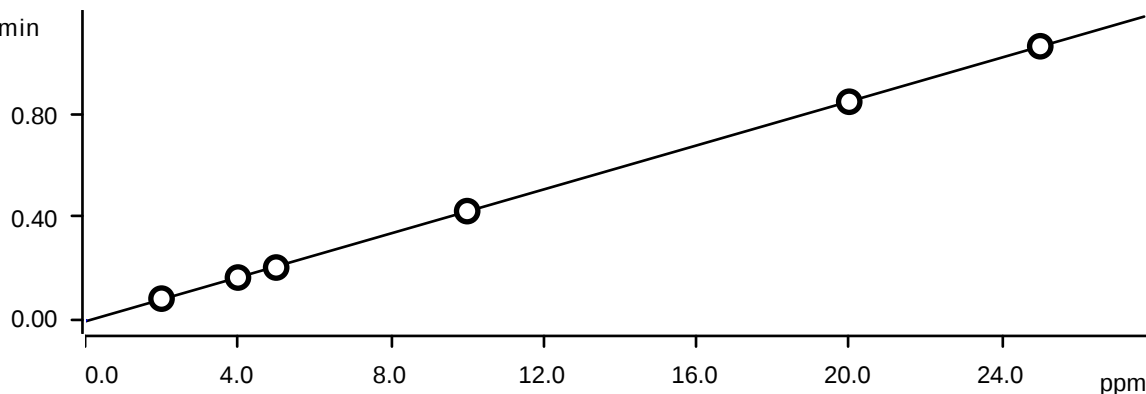
Relative standard deviation 0.767970 %

Correlation coefficient 0.999969

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	0.600	10.0	1.0	1.0	0.126	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	1.200	10.0	1.0	1.0	0.252	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	1.500	10.0	1.0	1.0	0.310	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	3.000	10.0	1.0	1.0	0.645	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	6.000	10.0	1.0	1.0	1.302	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	7.500	10.0	1.0	1.0	1.639	STD7	2025-03-21 12:54:24 UTC-4	used

Bromide (Anions)

($\mu\text{S}/\text{cm}$) $\times$ min



Function: $A = -4.26620E-3 + 4.25885E-3 \times Q$

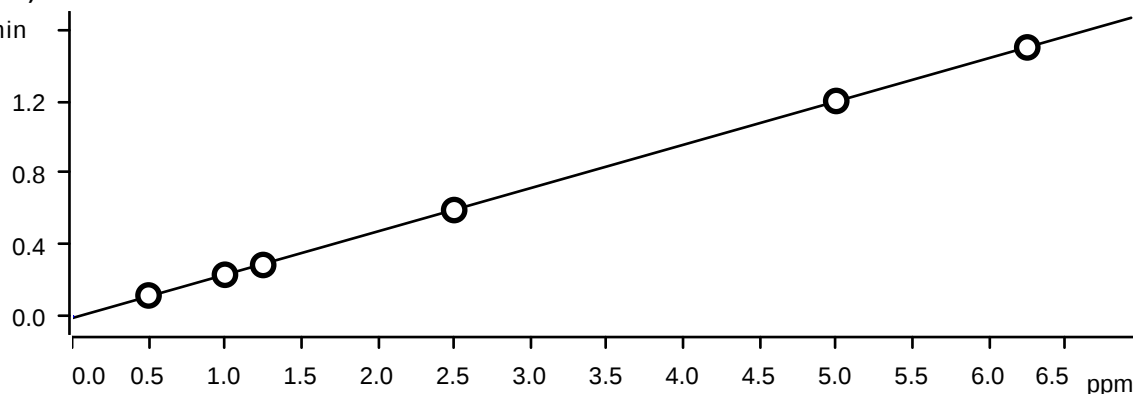
Relative standard deviation: 0.597348 %

Correlation coefficient: 0.999981

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	2.000	10.0	1.0	1.0	0.084	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	4.000	10.0	1.0	1.0	0.166	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	5.000	10.0	1.0	1.0	0.205	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	10.000	10.0	1.0	1.0	0.423	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	20.000	10.0	1.0	1.0	0.846	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	25.000	10.0	1.0	1.0	1.061	STD7	2025-03-21 12:54:24 UTC-4	used

Nitrate (Anions)

($\mu\text{S}/\text{cm}$) $\times$ min

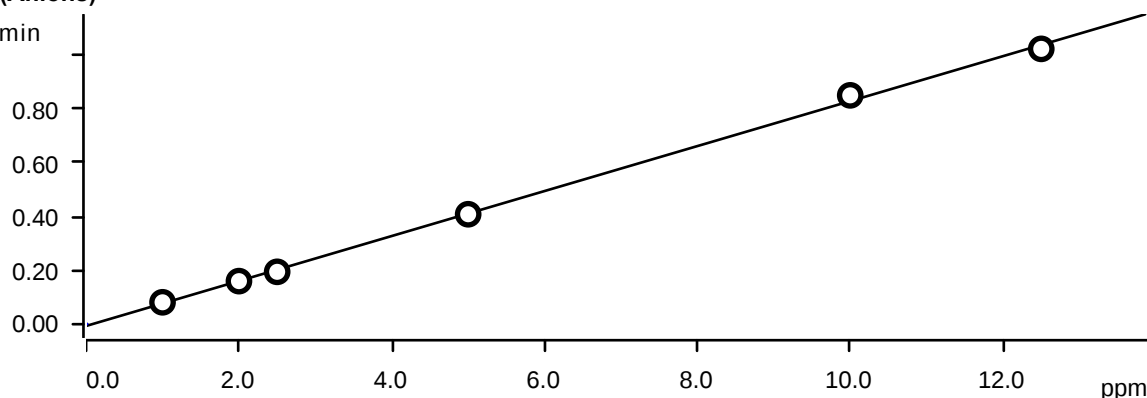


Function: $A = -9.20754E-3 + 0.0241631 \times Q$

Relative standard deviation: 0.659338 %

Correlation coefficient 0.999977

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	0.500	10.0	1.0	1.0	0.117	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	1.000	10.0	1.0	1.0	0.233	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	1.250	10.0	1.0	1.0	0.287	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	2.500	10.0	1.0	1.0	0.593	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	5.000	10.0	1.0	1.0	1.202	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	6.250	10.0	1.0	1.0	1.500	STD7	2025-03-21 12:54:24 UTC-4	used

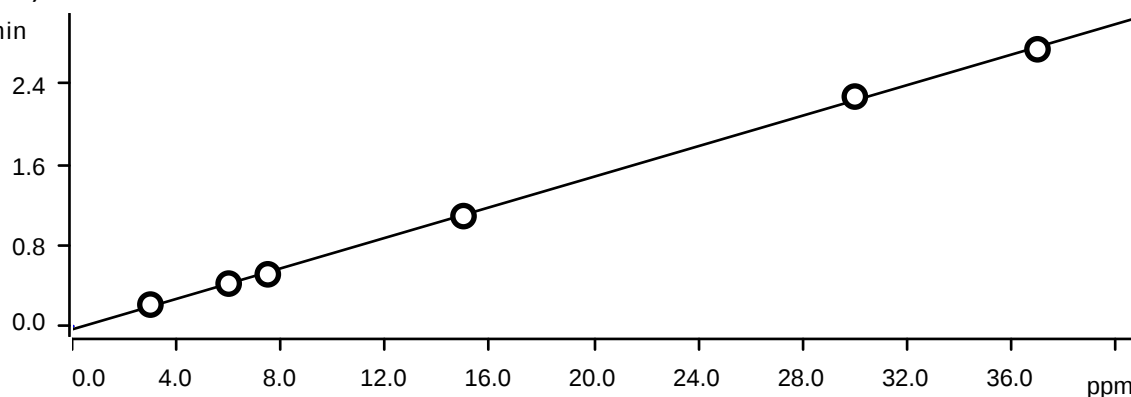
Phosphate (Anions) $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -6.92112E-3 + 8.35786E-3 \times Q$

Relative standard deviation 3.051728 %

Correlation coefficient 0.999508

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	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	1.000	10.0	1.0	1.0	0.081	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	2.000	10.0	1.0	1.0	0.160	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	2.500	10.0	1.0	1.0	0.194	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	5.000	10.0	1.0	1.0	0.408	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	10.000	10.0	1.0	1.0	0.850	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	12.500	10.0	1.0	1.0	1.023	STD7	2025-03-21 12:54:24 UTC-4	used

Sulfate (Anions)

 $(\mu\text{S}/\text{cm}) \times \text{min}$ Function: $A = -0.0318458 + 7.56676E-3 \times Q$

Relative standard deviation 2.235653 %

Correlation coefficient 0.999739

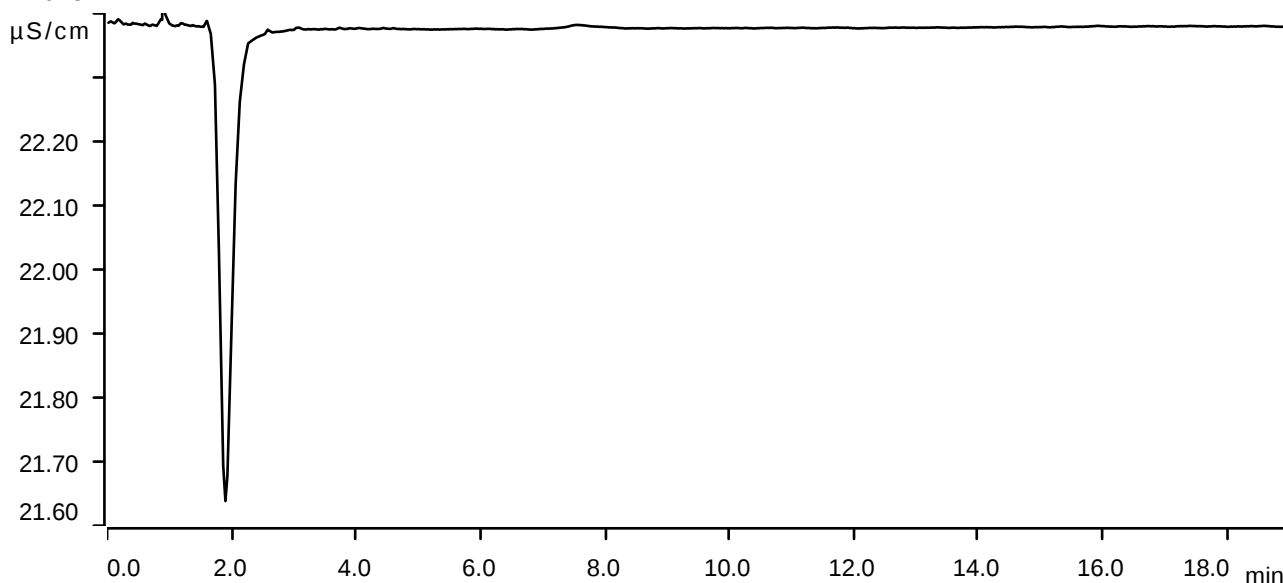
Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date	Used
Standard 1	1	0.000	10.0	1.0	1.0	n. d.	STD1	2025-03-21 10:45:52 UTC-4	used
Standard 2	1	3.000	10.0	1.0	1.0	0.214	STD2	2025-03-21 11:07:15 UTC-4	used
Standard 3	1	6.000	10.0	1.0	1.0	0.422	STD3	2025-03-21 11:28:39 UTC-4	used
Standard 4	1	7.500	10.0	1.0	1.0	0.514	STD4	2025-03-21 11:50:04 UTC-4	used
Standard 5	1	15.000	10.0	1.0	1.0	1.091	STD5	2025-03-21 12:11:30 UTC-4	used
Standard 6	1	30.000	10.0	1.0	1.0	2.276	STD6	2025-03-21 12:32:57 UTC-4	used
Standard 7	1	37.000	10.0	1.0	1.0	2.745	STD7	2025-03-21 12:54:24 UTC-4	used

Sample data

Ident STD1
Sample type Standard 1
Determination start 2025-03-21 10:45:52 UTC-4
Method IC1-032125
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

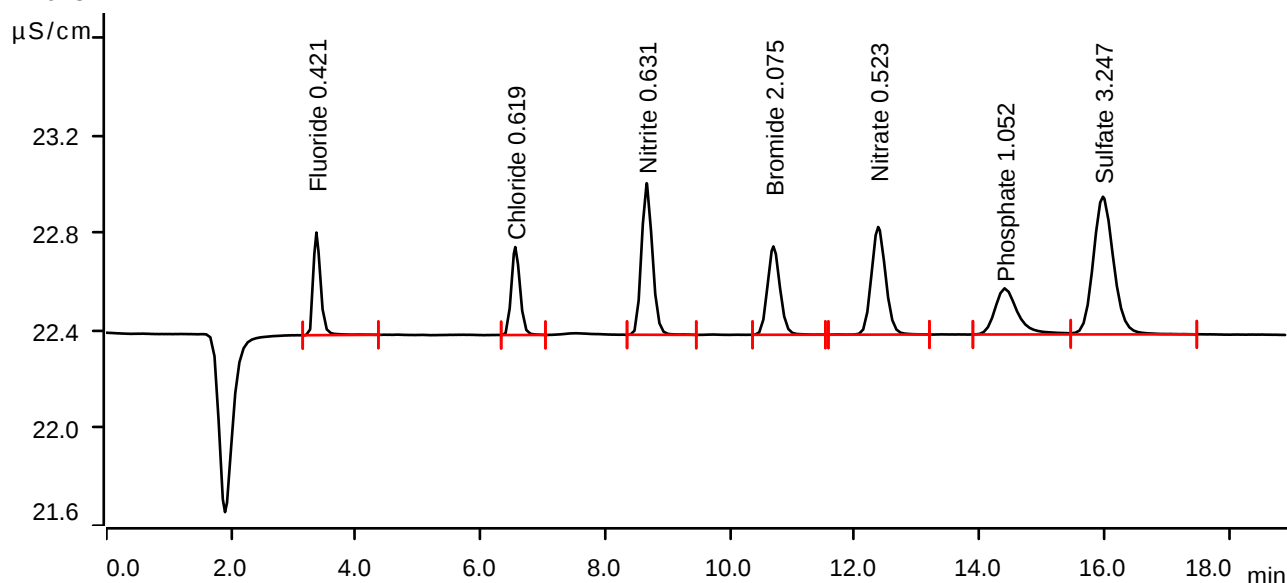
Sample data

Ident STD2
Sample type Standard 2
Determination start 2025-03-21 11:07:15 UTC-4
Method IC1-032125
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 11.49 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	0.0570	0.420	0.421	Fluoride
2	6.557	0.0580	0.361	0.619	Chloride
3	8.662	0.1260	0.621	0.631	Nitrite
4	10.695	0.0841	0.362	2.075	Bromide
5	12.375	0.1171	0.441	0.523	Nitrate
6	14.403	0.0810	0.189	1.052	Phosphate
7	15.978	0.2139	0.564	3.247	Sulfate

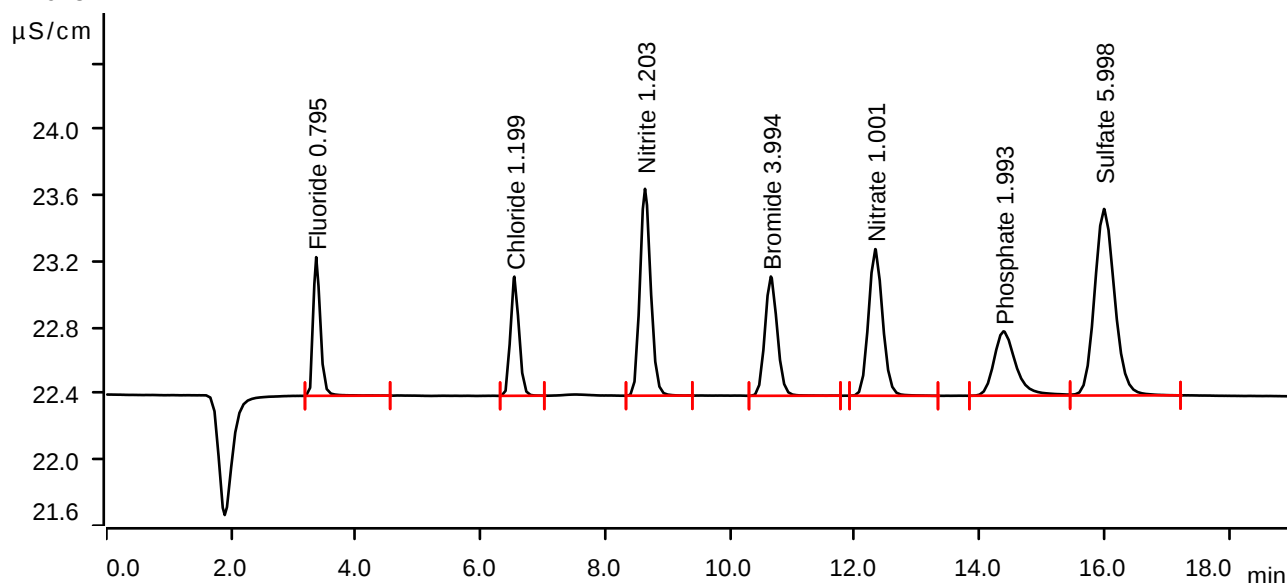
Sample data

Ident STD3
Sample type Standard 3
Determination start 2025-03-21 11:28:39 UTC-4
Method IC1-032125
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



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.365	0.1110	0.839	0.795	Fluoride
2	6.542	0.1146	0.721	1.199	Chloride
3	8.637	0.2515	1.252	1.203	Nitrite
4	10.653	0.1658	0.722	3.994	Bromide
5	12.328	0.2325	0.888	1.001	Nitrate
6	14.383	0.1597	0.389	1.993	Phosphate
7	15.995	0.4220	1.129	5.998	Sulfate

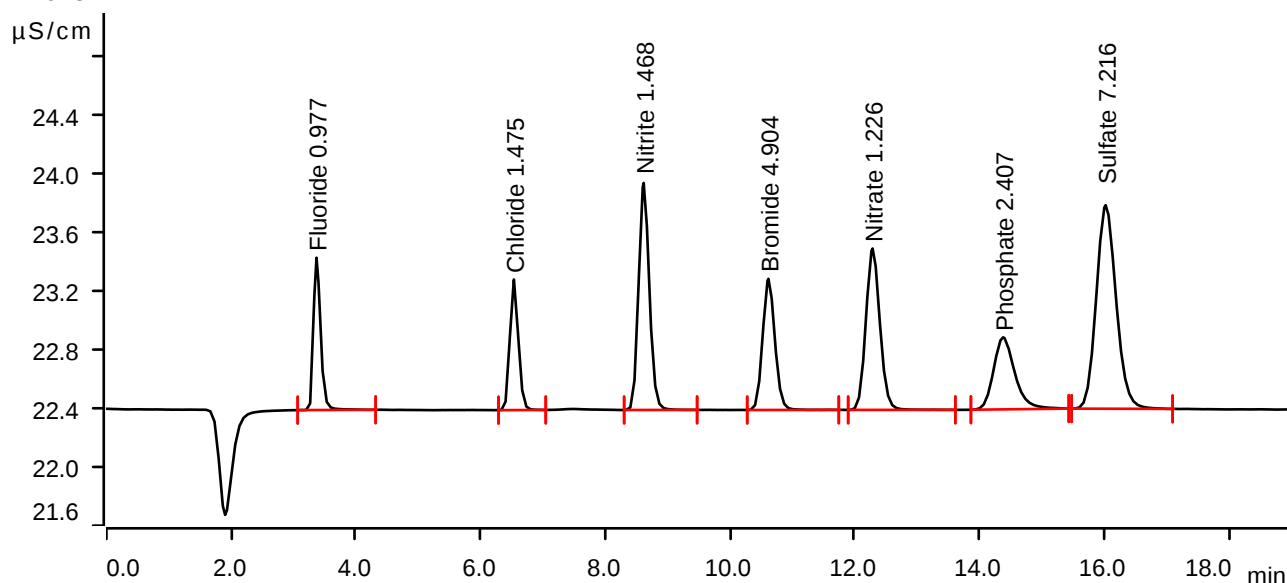
Sample data

Ident STD4
Sample type Standard 4
Determination start 2025-03-21 11:50:04 UTC-4
Method IC1-032125
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 11.49 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	0.1374	1.040	0.977	Fluoride
2	6.533	0.1415	0.892	1.475	Chloride
3	8.615	0.3099	1.551	1.468	Nitrite
4	10.615	0.2046	0.896	4.904	Bromide
5	12.285	0.2869	1.103	1.226	Nitrate
6	14.378	0.1943	0.492	2.407	Phosphate
7	16.022	0.5142	1.391	7.216	Sulfate

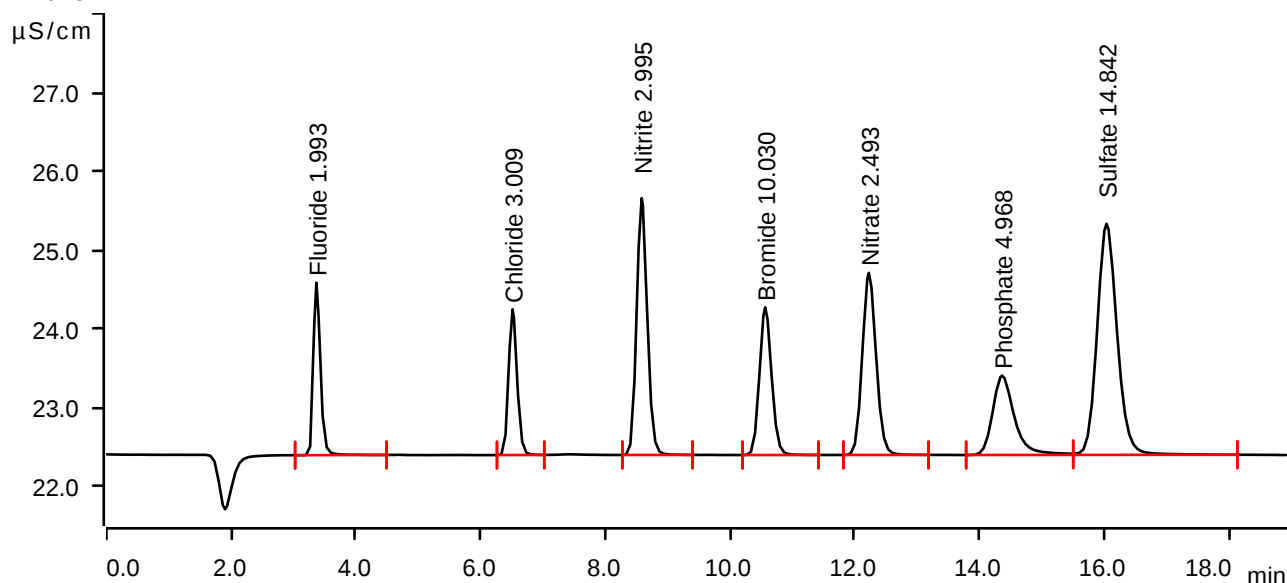
Sample data

Ident STD5
Sample type Standard 5
Determination start 2025-03-21 12:11:30 UTC-4
Method IC1-032125
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 11.20 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	0.2843	2.188	1.993	Fluoride
2	6.513	0.2909	1.849	3.009	Chloride
3	8.583	0.6452	3.260	2.995	Nitrite
4	10.563	0.4229	1.875	10.030	Bromide
5	12.225	0.5933	2.311	2.493	Nitrate
6	14.362	0.4083	1.007	4.968	Phosphate
7	16.035	1.0913	2.934	14.842	Sulfate

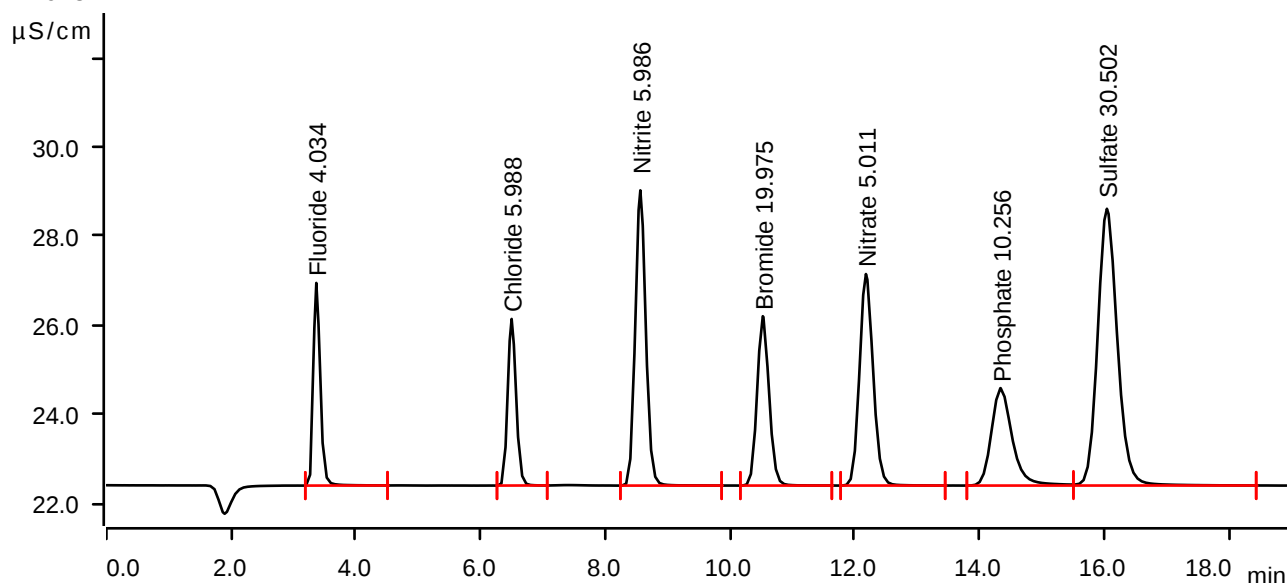
Sample data

Ident STD6
Sample type Standard 6
Determination start 2025-03-21 12:32:57 UTC-4
Method IC1-032125
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 11.09 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	0.5796	4.549	4.034	Fluoride
2	6.498	0.5810	3.740	5.988	Chloride
3	8.562	1.3025	6.628	5.986	Nitrite
4	10.525	0.8465	3.803	19.975	Bromide
5	12.178	1.2015	4.749	5.011	Nitrate
6	14.338	0.8503	2.187	10.256	Phosphate
7	16.042	2.2762	6.214	30.502	Sulfate

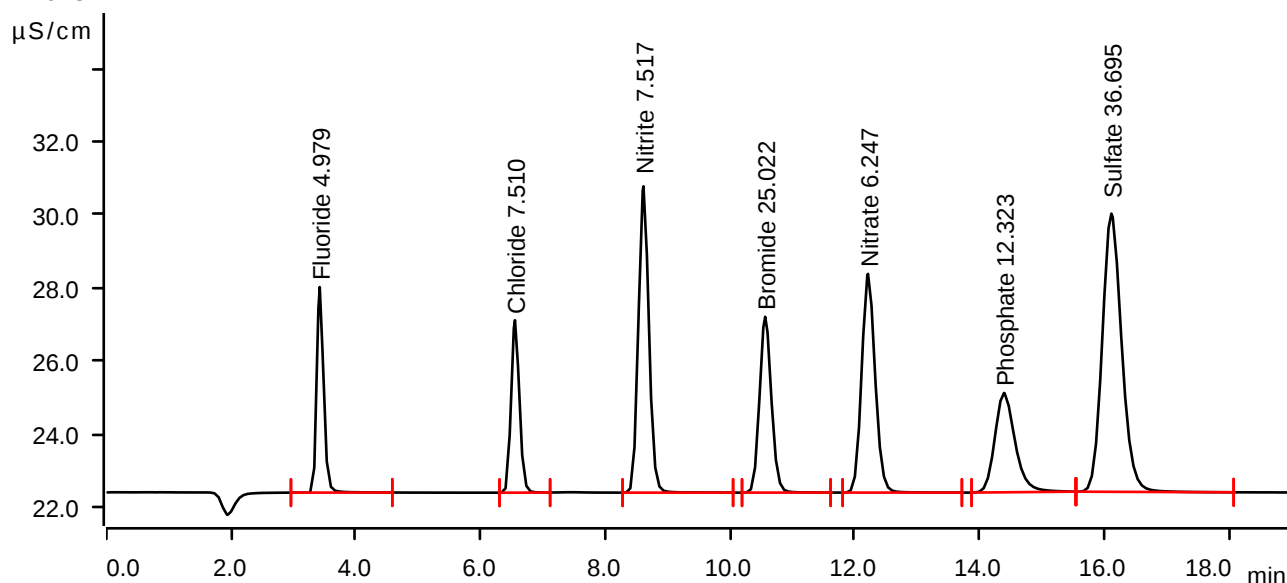
Sample data

Ident STD7
Sample type Standard 7
Determination start 2025-03-21 12:54:24 UTC-4
Method IC1-032125
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 11.37 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	0.7164	5.617	4.979	Fluoride
2	6.552	0.7293	4.712	7.510	Chloride
3	8.612	1.6387	8.371	7.517	Nitrite
4	10.563	1.0614	4.806	25.022	Bromide
5	12.212	1.5003	5.978	6.247	Nitrate
6	14.392	1.0231	2.714	12.323	Phosphate
7	16.113	2.7448	7.604	36.695	Sulfate

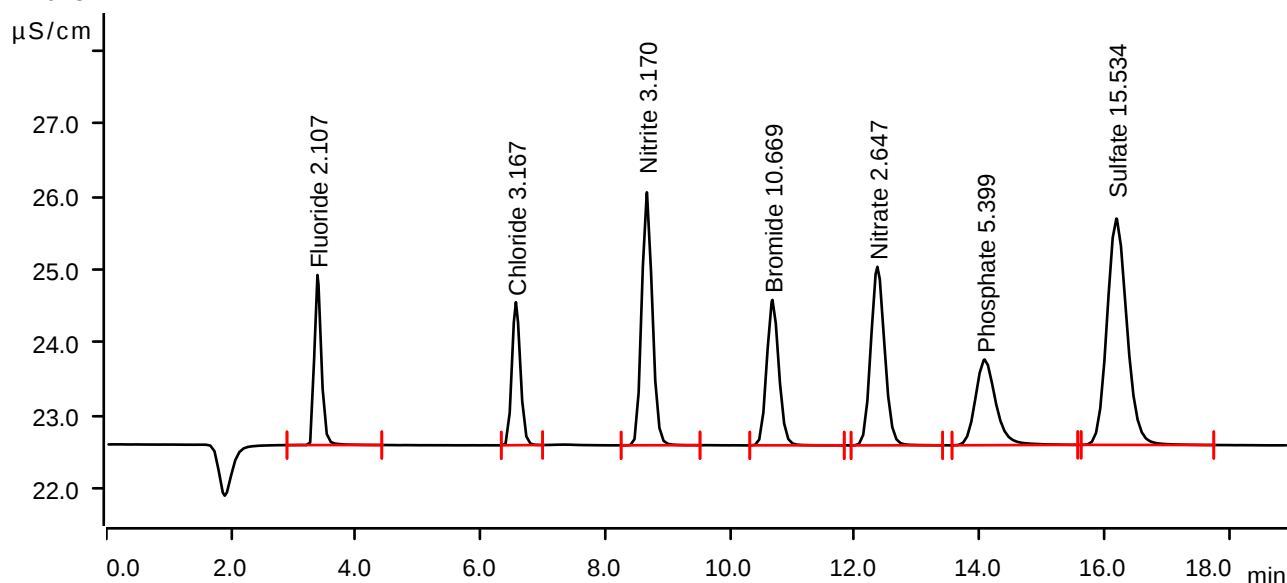
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-03-28 09:47:48 UTC-4
Method IC1-032125
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 11.26 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



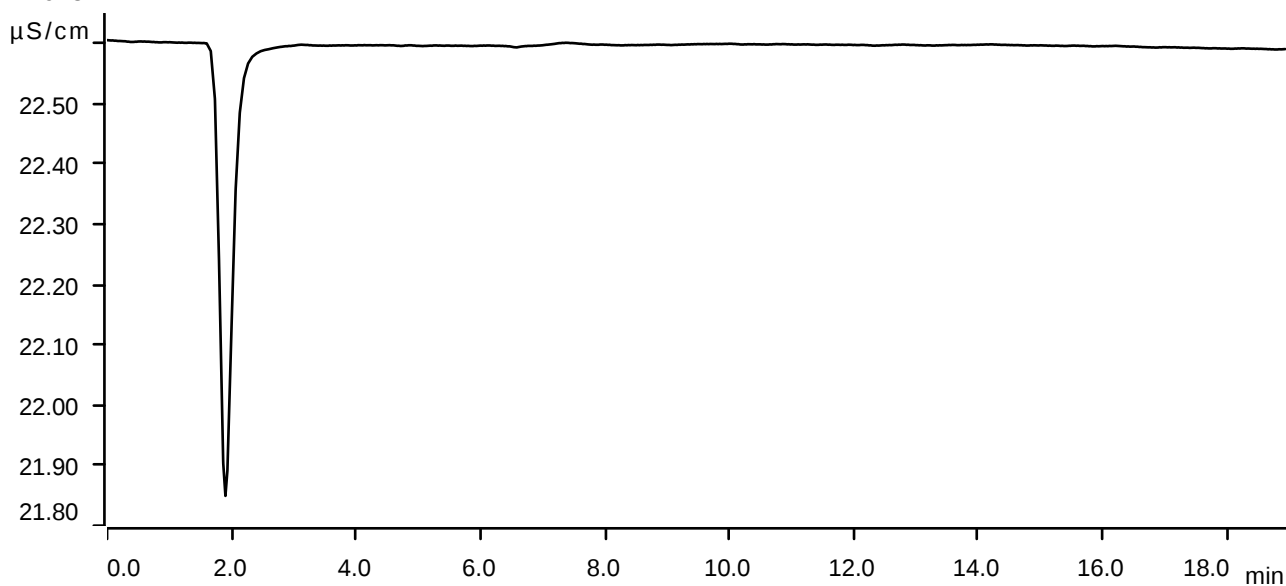
Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.385	0.3009	2.325	2.107	Fluoride
2	6.567	0.3062	1.954	3.167	Chloride
3	8.665	0.6837	3.457	3.170	Nitrite
4	10.680	0.4501	1.988	10.669	Bromide
5	12.362	0.6305	2.441	2.647	Nitrate
6	14.082	0.4443	1.170	5.399	Phosphate
7	16.193	1.1436	3.093	15.534	Sulfate

Sample data

Ident CCB
Sample type Sample
Determination start 2025-03-28 10:09:19 UTC-4
Method IC1-032125
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 11.26 MPa
Maximum pressure monitored yes
Temperature ---- °C

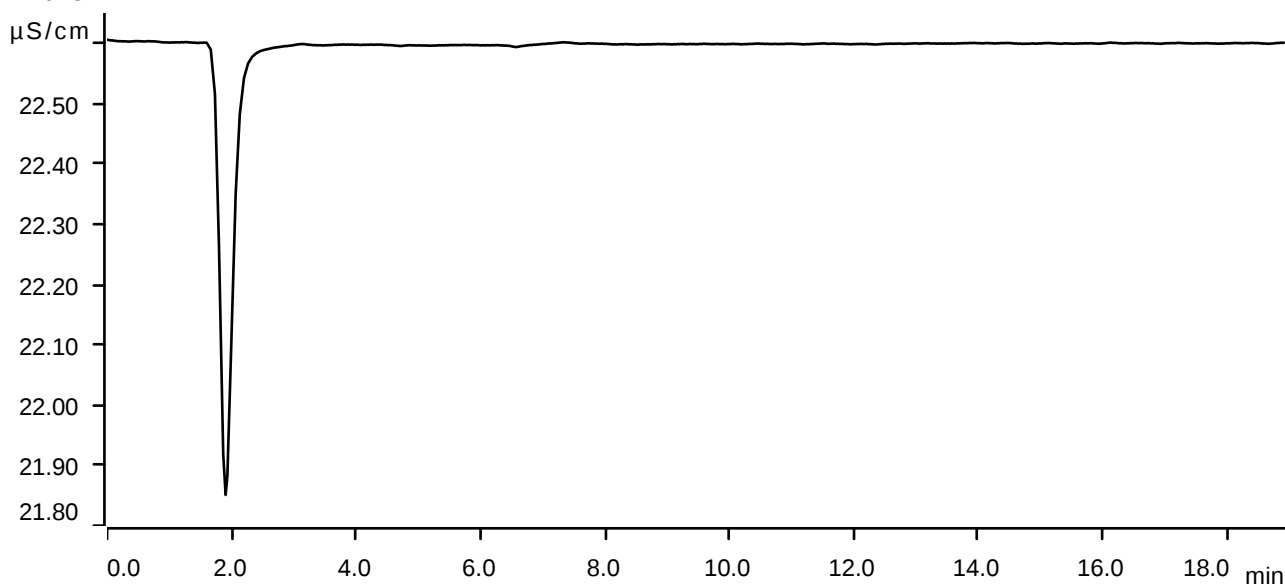
Anions

Sample data

Ident LB135226BLW
Sample type Sample
Determination start 2025-03-28 10:30:49 UTC-4
Method IC1-032125
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 11.32 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions

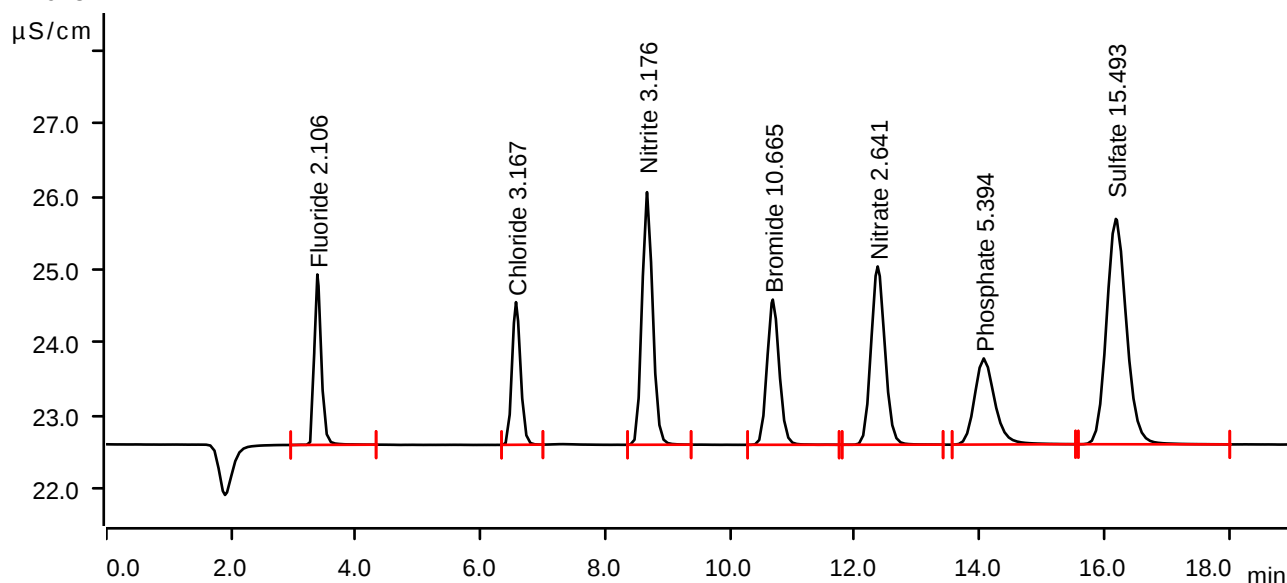
Sample data

Ident LB135226BSW
Sample type Check standard 1
Determination start 2025-03-28 10:52:20 UTC-4
Method IC1-032125
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 11.32 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	3.383	0.3007	2.328	2.106	Fluoride
2	6.568	0.3062	1.949	3.167	Chloride
3	8.670	0.6851	3.452	3.176	Nitrite
4	10.685	0.4499	1.984	10.665	Bromide
5	12.367	0.6289	2.436	2.641	Nitrate
6	14.067	0.4439	1.177	5.394	Phosphate
7	16.185	1.1405	3.080	15.493	Sulfate

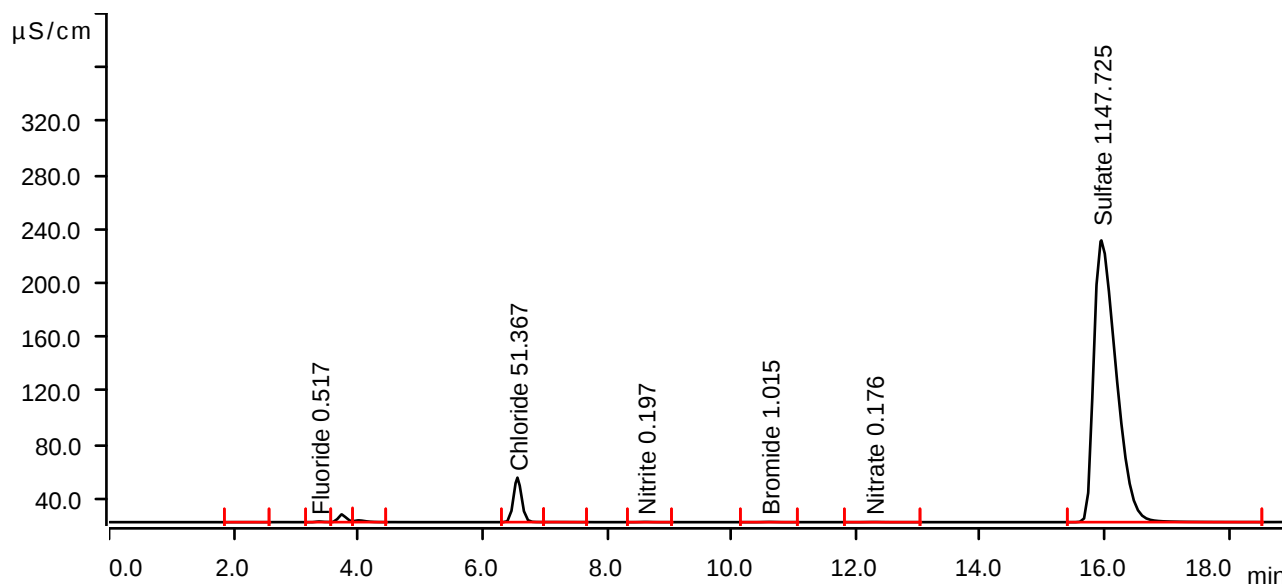
Sample data

Ident Q1666-01
Sample type Sample
Determination start 2025-03-28 11:13:53 UTC-4
Method IC1-032125
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 11.15 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	2.083	0.0106	0.032	invalid	
2	3.375	0.0708	0.475	0.517	Fluoride
3	3.742	0.8740	5.731	invalid	
4	4.015	0.2719	1.299	invalid	
5	6.563	5.0014	33.008	51.367	Chloride
6	7.182	0.0102	0.031	invalid	
7	8.622	0.0306	0.155	0.197	Nitrite
8	10.615	0.0390	0.173	1.015	Bromide
9	12.288	0.0334	0.129	0.176	Nitrate
10	15.947	86.8138	209.005	1147.725	Sulfate

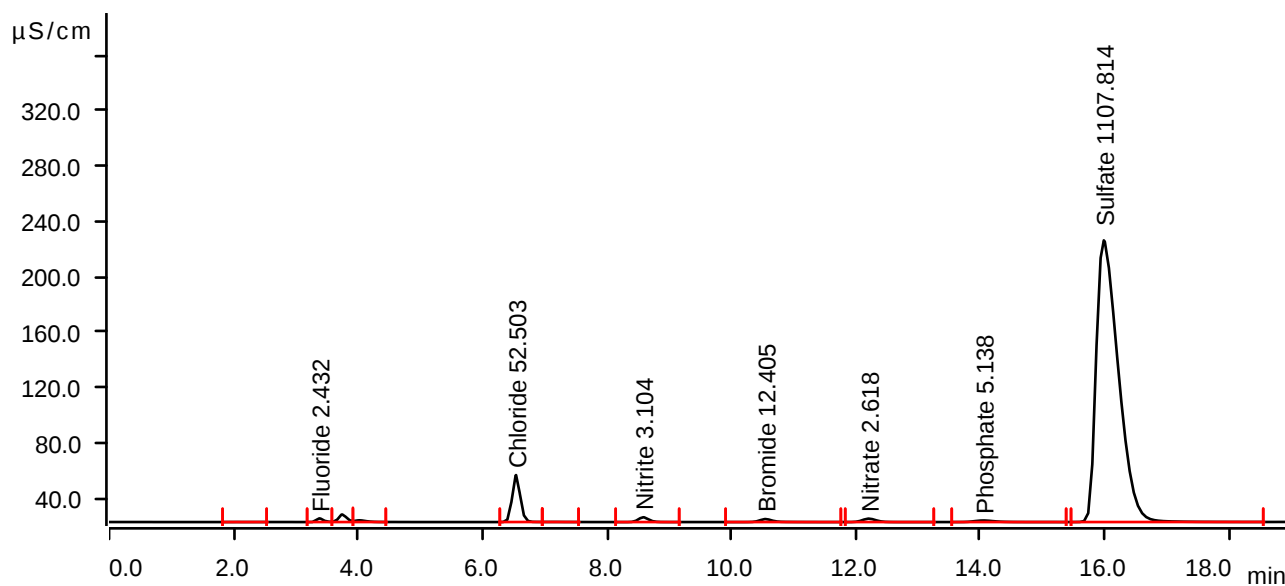
Sample data

Ident Q1666-01MS
Sample type Sample
Determination start 2025-03-28 11:35:26 UTC-4
Method IC1-032125
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 10.98 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area ($\mu\text{S/cm}$) x min	Height $\mu\text{S/cm}$	Concentration ppm	Component name
1	2.053	0.0083	0.028	invalid	
2	3.380	0.3478	2.656	2.432	Fluoride
3	3.748	0.8351	5.487	invalid	
4	4.025	0.2589	1.240	invalid	
5	6.542	5.1121	33.916	52.503	Chloride
6	7.147	0.0084	0.028	invalid	
7	8.585	0.6693	3.446	3.104	Nitrite
8	10.548	0.5240	2.152	12.405	Bromide
9	12.208	0.6234	2.472	2.618	Nitrate
10	14.050	0.4225	1.117	5.138	Phosphate
11	15.985	83.7938	203.476	1107.814	Sulfate

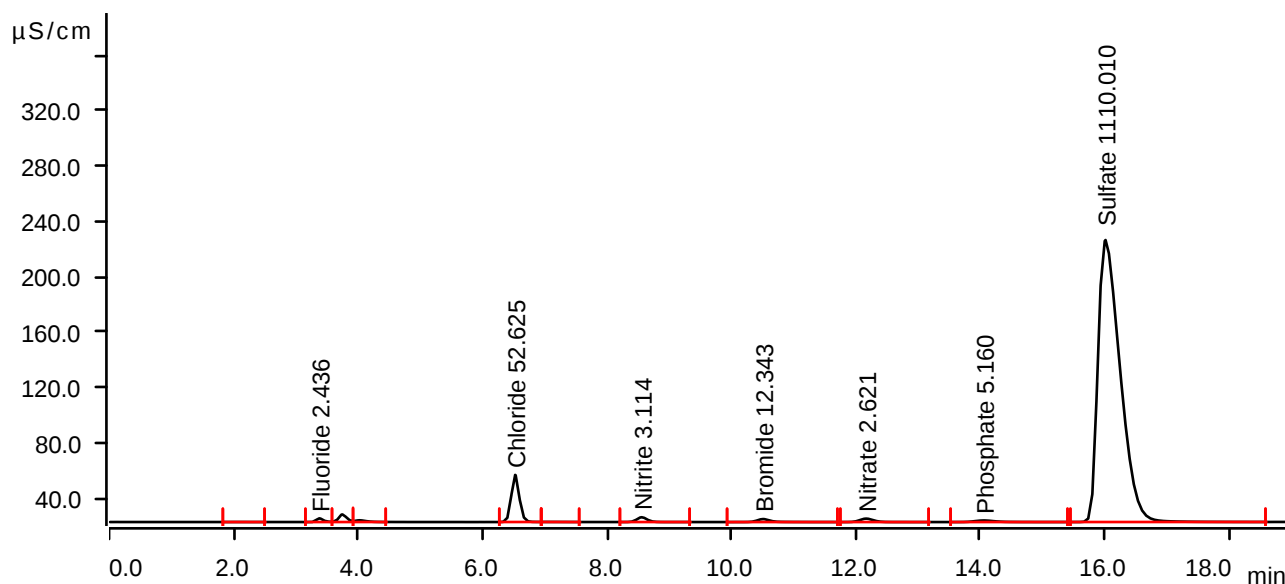
Sample data

Ident Q1666-01MSD
Sample type Sample
Determination start 2025-03-28 11:57:00 UTC-4
Method IC1-032125
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 10.81 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



Peak number	Retention time min	Area ($\mu\text{S/cm}$) x min	Height $\mu\text{S/cm}$	Concentration ppm	Component name
1	2.060	0.0080	0.028	invalid	
2	3.380	0.3485	2.659	2.436	Fluoride
3	3.750	0.8358	5.504	invalid	
4	4.027	0.2583	1.242	invalid	
5	6.527	5.1239	34.043	52.625	Chloride
6	7.118	0.0083	0.027	invalid	
7	8.560	0.6715	3.466	3.114	Nitrite
8	10.510	0.5214	2.157	12.343	Bromide
9	12.167	0.6241	2.486	2.621	Nitrate
10	14.055	0.4244	1.126	5.160	Phosphate
11	16.013	83.9600	203.702	1110.010	Sulfate

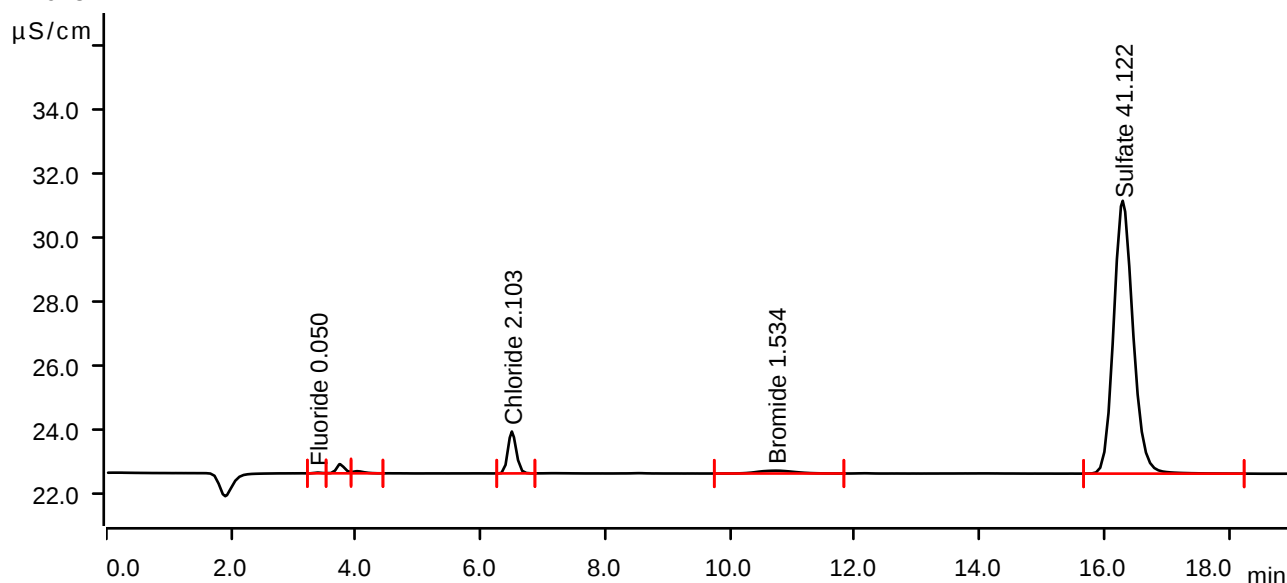
Sample data

Ident Q1666-01DLX20
Sample type Sample
Determination start 2025-03-28 12:18:35 UTC-4
Method IC1-032125
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 10.70 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	3.387	0.0032	0.023	0.050	Fluoride
2	3.747	0.0446	0.289	invalid	
3	4.023	0.0140	0.067	invalid	
4	6.502	0.2026	1.308	2.103	Chloride
5	10.733	0.0611	0.089	1.534	Bromide
6	16.295	3.0797	8.523	41.122	Sulfate

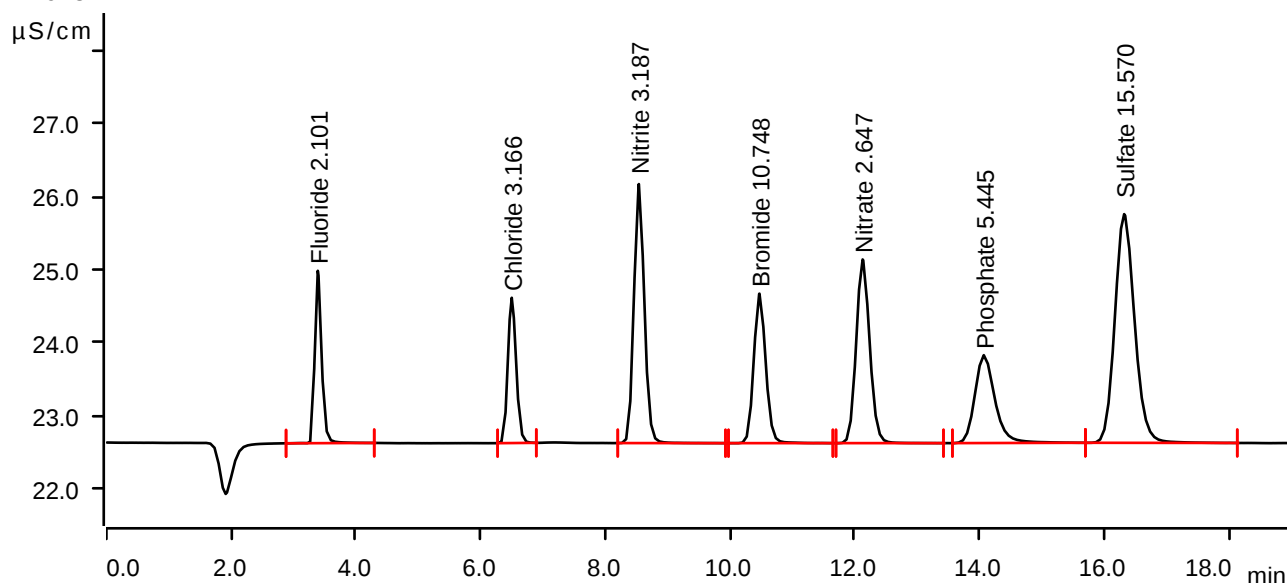
Sample data

Ident CCV
Sample type Check standard 1
Determination start 2025-03-28 12:40:10 UTC-4
Method IC1-032125
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 10.64 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions



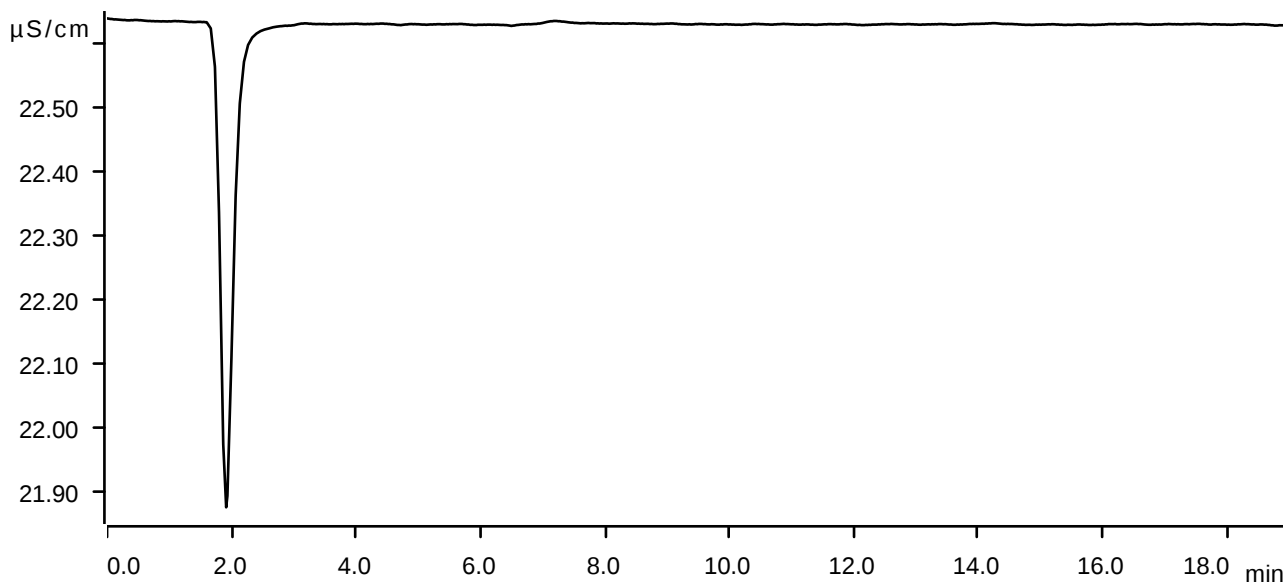
Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration ppm	Component name
1	3.390	0.3000	2.355	2.101	Fluoride
2	6.500	0.3062	1.985	3.166	Chloride
3	8.538	0.6875	3.540	3.187	Nitrite
4	10.472	0.4535	2.043	10.748	Bromide
5	12.125	0.6303	2.510	2.647	Nitrate
6	14.068	0.4482	1.200	5.445	Phosphate
7	16.318	1.1463	3.126	15.570	Sulfate

Sample data

Ident CCB
Sample type Sample
Determination start 2025-03-28 13:01:40 UTC-4
Method IC1-032125
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 10.64 MPa
Maximum pressure monitored yes
Temperature ---- °C

Anions

BOD5 LOG

ANALYST: rubin
Inst Id :DO METER
LB :LB135227

SUPERVISOR: Iwona

QC BATCH ID: LB135227

Analysis Date: 03/28/2025

BOD Water: WP112538

MANGANOUS SULFATE SOLUTION: W3103

Starch: W3149

Alkaline Iodide Azide: W3109

Sulfuric acid, 1N: WP110386

Sodium Thiosulfate, 0.025N: W3105

POLYSEED: WP112540

NaOH, 1N: WP111323

GGA: WP112539

IncubatorID: INCUBATOR #3

Chlorine Strips: W3155

GuageID: 0511062

pH Strips: W3140

Zero DO: WP112277

Lab SampleID	Client ID	Bottle No.	VOL. ML	Initial Reading (ML)	Final Reading (ML)	Difference	Average
WINKLER 1	WINKLER 1	1	300	0.0	9.8	9.8	9.8
WINKLER 2	WINKLER 2	2	300	9.9	19.7	9.8	9.8

Meter Calibration1: 9.00 Zero DO Reading1: 0.08 mg/L (<=0.2 Criteria)

Barometric Pressure1: 765 mmHg DO Meter BOD fluid reading for winkler comparison: 9.82

After Incubation

Meter Calibration2: 7.79 Zero DO Reading2: 0.15 mg/L (<=0.2 Criteria)

Barometric Pressure2: 776 mmHg

QC BATCH ID: LB135227

INCUBATOR TEMP IN (C): 20.2

INCUBATOR TEMP OUT (C): 20.3

TIME IN: 12:20

TIME OUT: 10:15

DATE IN: 03/28/2025

DATE OUT: 04/02/2025

Lab SampleID	Bottle No.	Check CL	Initial PH	Final PH	Temp °C	Sam Vol. (mL)	D.O.1 Initial	D.O.2 Final	Depletion	BOD Result (mg/L)	Avg Result (mg/L)	Comment
LB135227BL	1	No	6.58	N/A	20.80	300	9.81	9.80	0.01	0.01	0.01	
POLYSEED	1					10	9.71	7.38	2.33	0.47	0.57	
POLYSEED	2					15	9.69	5.51	4.18	0.56		
POLYSEED	3					20	9.65	2.94	6.71	0.67		
GGA	1					6	9.79	5.48	4.31	187	191.83	
GGA	2					6	9.78	5.33	4.45	194		
GGA	3					6	9.73	5.27	4.46	194.5		
Q1666-01	1	No	6.40	6.78	20.00	5	9.77	6.10	3.67	186	132.45	pH Adjusted
Q1666-01	2					20	9.75	3.92	5.83	78.9		
Q1666-01	3					50	9.71	0.20	-	0		
Q1666-01	4					150	9.27	0.13	-	0		

NOTE: 2ml POLYSEED added to GGA and all the Samples, but not in Blank.

NOTE (For, CBOD5): 0.16 g Nitrification Inhibitor added to GGA and all the Samples, but not in Blank.

WORKLIST(Hardcopy Internal Chain)

LB1335227

WorkList Name : bod5-3-28

WorkList ID : 188609

Department : Wet-Chemistry

Date : 03-28-2025 09:34:35

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1666-01	TW-WTS-05	Water	BOD5	Cool 4 deg C	ENTA05	I31	03/25/2025	SM5210 B

Date/Time 03/28/2025 10:40
Raw Sample Received by: RM (wcl)
Raw Sample Relinquished by: JH (wcl)

Date/Time 03/28/2025 12:00
Raw Sample Received by: JH (wcl)
Raw Sample Relinquished by: RM (wcl)

Analytical Summary Report

Analysis Method: 1010B

Reviewed By: rubina

Parameter: Flash Point

Supervisor Review By: Iwona

Run Number: LB135236

Ambient Barometric Pressure (mmHg): 760.00

Thermometer ID: Flash Point

Barometric Scale ID: 0511064

Reagent/Standard	Lot/Log #
p-xylene (ICV)	W3193

Seq	LabID	True Value °F	DL	Initial Sample °C	Celsius °C	Result °F	Final Result °F	Anal Date	Anal Time
1	ICV	81	1	9	28.00	82.4	82.4	04/01/2025	11:00
2	Q1666-01		1	15	100.00	>212.0	>212.0	04/01/2025	11:30
3	Q1666-01DUP		1	15	100.00	>212.0	>212.0	04/01/2025	12:00

Result = (Celsius * 1.8) + 32

Final Result = Result + (760 - Ambient Barometric Pressure) * 0.06

WORKLIST(Hardcopy Internal Chain)

LB 135236

WorkList Name : fp-3-31

WorkList ID : 188640

Department : Wet-Chemistry

Date : 03-31-2025 12:27:41

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1666-01	TW-WTS-05	Water	Flash Point	Cool 4 deg C	ENTA05	I31	03/25/2025	1010B

Date/Time 04/01/2025 10:45
 Raw Sample Received by: RM CWC
 Raw Sample Relinquished by: RM CWC

Date/Time 04/01/2025 12:40
 Raw Sample Received by: RM CWC
 Raw Sample Relinquished by: RM CWC

TOTAL SUSPENDED SOLIDS - SM2540D

SUPERVISOR: Iwona

ANALYST: jignesh

Date: 04/02/2025

Run Number: LB135277

BalanceID: WC SC-6

OvenID: EXT OVEN-3

FilterID: 17416528

ThermometerID: WET OVEN#1

TEMP1 IN: 103 °C 04/02/2025 15:00 **TEMP1 OUT:** 104 °C 04/02/2025 16:00
TEMP2 IN: 103 °C 04/02/2025 16:30 **TEMP2 OUT:** 104 °C 04/02/2025 17:30
TEMP3 IN: 103 °C 04/03/2025 09:30 **TEMP3 OUT:** 104 °C 04/03/2025 11:00
TEMP4 IN: 103 °C 04/03/2025 11:30 **TEMP4 OUT:** 104 °C 04/03/2025 13:05

Dish #	Lab ID	Client ID	Empty Dish Weight (g)	Final Empty Dish Weight (g)	Sample Volume (ml)	1st Empty Dish+Sample weight after 1.5hr drying @103-@105°C (g)	2nd Empty Dish+Sample weight after 1.5hr drying @103-@105°C (g)	Final Empty Dish+Sample weight after 1.5hr drying @103-@105°C (g)	Weight (g)	Result mg/L
1	LB135277BL	LB135277BL	1.5963	1.5963	100	1.5964	1.5964	1.5964	0.0001	1
2	LB135277BS	LB135277BS	1.3025	1.3025	100	1.3557	1.3557	1.3557	0.0532	532
3	Q1666-01	TW-WTS-05	1.4861	1.4861	800	1.4944	1.4944	1.4944	0.0083	10.4
4	Q1703-02	COMP	1.4724	1.4724	100	1.5398	1.5398	1.5398	0.0674	674
5	Q1703-02DUP	COMPDUP	1.4832	1.4832	100	1.5487	1.5487	1.5487	0.0655	655
6	Q1707-01	001-WILLETS-PT-BLVD (MAR)	1.4082	1.4082	250	1.4217	1.4217	1.4217	0.0135	54
7	Q1707-02	002-35TH-AVE (MAR)	1.5012	1.5012	250	1.5172	1.5172	1.5172	0.0160	64

A = Sample Volume (ml)

B = Final Empty Dish Weight (g)

C = Final Empty Dish + Sample weight after 1.5 hr drying @105°C(g)

D = Weight (g)

Weight (g) = C - B

Result mg/L = $\frac{D}{A} \times 1000 \times 1000$

WORKLIST(Hardcopy Internal Chain)

W3135277

WorkList Name : TSS Q1695 WorkList ID : 188687 Department : Wet-Chemistry Date : 04-03-2025 07:51:55

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1666-01	D TW-WTS-05	Water	TSS	Cool 4 deg C	ENTA05	I31	03/25/2025	SM2540 D
Q1703-02	C COMP	Water	TSS	Cool 4 deg C	ARAM01	L11	04/02/2025	SM2540 D
Q1707-01	B 001-WILLETS-PT-BLVD(MAR)	Water	TSS	Cool 4 deg C	TULL01	L12	04/01/2025	SM2540 D
Q1707-02	B 002-35TH-AVE(MAR)	Water	TSS	Cool 4 deg C	TULL01	L12	04/01/2025	SM2540 D

Date/Time 04/03/25 08:10

Raw Sample Received by: SB (CSC)

Raw Sample Relinquished by: JD (CSC)

Date/Time 04/03/25 13:00

Raw Sample Received by: JD (CSC)

Raw Sample Relinquished by: SB (CSC)

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB135226

Review By	Niha	Review On	3/31/2025 9:56:41 AM
Supervise By	Iwona	Supervise On	3/31/2025 10:11:15 AM
SubDirectory	LB135226	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP112435,WP112436,WP112437,WP112438,WP112439,WP112440,WP112441		
ICV Standard	WP112442		
CCV Standard	WP112541		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP112542		
Chk Standard	WP112443,WP112444		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	STD1	STD1	CAL1	03/21/25 10:45	All standards, samples, and	NF/IZ	OK
2	STD2	STD2	CAL2	03/21/25 11:07	QC are filtered through	NF/IZ	OK
3	STD3	STD3	CAL3	03/21/25 11:28	0.45um, filter lot W3160	NF/IZ	OK
4	STD4	STD4	CAL4	03/21/25 11:50		NF/IZ	OK
5	STD5	STD5	CAL5	03/21/25 12:11		NF/IZ	OK
6	STD6	STD6	CAL6	03/21/25 12:32		NF/IZ	OK
7	STD7	STD7	CAL7	03/21/25 12:54		NF/IZ	OK
8	ICV1	ICV1	ICV	03/21/25 13:37		NF/IZ	OK
9	ICB1	ICB1	ICB	03/21/25 13:58		NF/IZ	OK
10	CCV1	CCV1	CCV	03/28/25 09:47		NF/IZ	OK
11	CCB1	CCB1	CCB	03/28/25 10:09		NF/IZ	OK
12	LB135226BLW	LB135226BLW	MB	03/28/25 10:30		NF/IZ	OK
13	LB135226BSW	LB135226BSW	LCS	03/28/25 10:52		NF/IZ	OK
14	Q1666-01	TW-WTS-05	SAM	03/28/25 11:13	CL high	NF/IZ	Dilution
15	Q1666-01MS	TW-WTS-05MS	MS	03/28/25 11:35	9.5ml of sample, 0.5mL W3092	NF/IZ	OK
16	Q1666-01MSD	TW-WTS-05MSD	MSD	03/28/25 11:57	9.5ml of sample, 0.5mL W3092	NF/IZ	OK
17	Q1666-01DL	TW-WTS-05DL	SAM	03/28/25 12:18	Report 20X for CL	NF/IZ	Confirms
18	CCV2	CCV2	CCV	03/28/25 12:40		NF/IZ	OK

Instrument ID: IC-2

Daily Analysis Runlog For Sequence/QC Batch ID # LB135226

Review By	Niha	Review On	3/31/2025 9:56:41 AM
Supervise By	Iwona	Supervise On	3/31/2025 10:11:15 AM
SubDirectory	LB135226	Test	Anions
STD. NAME	STD REF.#		
ICAL Standard	WP112435,WP112436,WP112437,WP112438,WP112439,WP112440,WP112441		
ICV Standard	WP112442		
CCV Standard	WP112541		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP112542		
Chk Standard	WP112443,WP112444		

19	CCB2	CCB2	CCB	03/28/25 13:01		NF/IZ	OK
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Instrument ID: DO METER

Daily Analysis Runlog For Sequence/QC Batch ID # LB135227

Review By	rubina	Review On	4/2/2025 11:19:34 AM
Supervise By	Iwona	Supervise On	4/2/2025 11:20:49 AM
SubDirectory	LB135227	Test	BOD5
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	WP112538,W3149,WP110386,W3103,W3109,W3105,WP112540,WP112539,WP111323		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB135227BL	LB135227BL	MB	03/28/25 12:20			OK
2	LB135227BS	LB135227BS	LCS	03/28/25 12:20			OK
3	Q1666-01	TW-WTS-05	SAM	03/28/25 12:20			OK

Instrument ID: IGN-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB135236

Review By	rubina	Review On	4/1/2025 1:08:57 PM
Supervise By	Iwona	Supervise On	4/1/2025 1:11:28 PM
SubDirectory	LB135236	Test	Flash Point
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	W3193		

Sr#	SampleID	ClientID	QcType	Date	Comment	Operator	Status
1	ICV	ICV	ICV	04/01/25 11:00		rubina	OK
2	Q1666-01	TW-WTS-05	SAM	04/01/25 11:30		rubina	OK
3	Q1666-01DUP	TW-WTS-05DUP	DUP	04/01/25 12:00		rubina	OK

Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QC Batch ID # LB135277

Review By	jignesh	Review On	4/3/2025 11:33:37 AM
Supervise By	Iwona	Supervise On	4/3/2025 11:37:21 AM
SubDirectory	LB135277	Test	TSS
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	LB135277BL	LB135277BL	MB	04/03/25 09:30		jignesh	OK
2	LB135277BS	LB135277BS	LCS	04/03/25 09:30		jignesh	OK
3	Q1666-01	TW-WTS-05	SAM	04/03/25 09:30		jignesh	OK
4	Q1703-02	COMP	SAM	04/03/25 09:30		jignesh	OK
5	Q1703-02DUP	COMPDUP	DUP	04/03/25 09:30		jignesh	OK
6	Q1707-01	001-WILLETS-PT-BL	SAM	04/03/25 09:30		jignesh	OK
7	Q1707-02	002-35TH-AVE(MAR)	SAM	04/03/25 09:30		jignesh	OK

Prep Standard - Chemical Standard Summary

Order ID : Q1666

Test : Anions Group2,BOD5,Flash Point,TSS

Prepbatch ID :

Sequence ID/Qc Batch ID: LB135226,LB135227,LB135236,LB135277,

Standard ID :

WP110259,WP110386,WP111323,WP112435,WP112436,WP112437,WP112438,WP112439,WP112440,WP112441,WP112442,WP112443,WP112444,WP112538,WP112539,WP112540,WP112541,WP112542,

Chemical ID :

M5673,M6041,W2647,W2653,W2654,W3058,W3059,W3063,W3103,W3105,W3109,W3112,W3113,W3144,W3149,W3180,W3193,



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4035	IC ELUENT CONCENTRATE FOR IC-1	WP110259	10/16/2024	04/16/2025	Iwona Zarych	WETCHEM_S CALE_5 (WC SC-5)	None	Jignesh Parikh 10/17/2024
<u>FROM</u>	2.10000gram of W2647 + 84.75000gram of W3058 + 913.15000ml of W3112 = Final Quantity: 1000.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1841	Sulfuric Acid, 1N	WP110386	10/24/2024	04/24/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 10/24/2024
FROM 2.80000ml of M5673 + 97.20000ml of W3112 = Final Quantity: 100.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1571	Sodium hydroxide, 1N	WP111323	01/09/2025	07/09/2025	Rubina Mughal	WETCHEM_S CALE_8 (WC SC-7)	None	Iwona Zarych 01/09/2025
<u>FROM</u> 4.00000gram of W3113 + 96.00000ml of W3112 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2487	Anions 300/9056 calibration standard 1	WP112435	03/21/2025	03/22/2025	Niha Farheen Shaik	None	None	Iwona Zarych 03/24/2025
<u>FROM</u> 10.00000ml of W3112 = Final Quantity: 10.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
24	Anions 300/9056 calibration standard 2	WP112436	03/21/2025	03/22/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3	Iwona Zarych 03/24/2025
<u>FROM</u> 0.20000ml of W3180 + 9.80000ml of W3112 = Final Quantity: 10.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
25	Anions 300/9056 calibration standard 3	WP112437	03/21/2025	03/22/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3	Iwona Zarych
(WC) FROM 0.40000ml of W3180 + 9.60000ml of W3112 = Final Quantity: 10.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
26	Anions 300/9056 calibration standard 4	WP112438	03/21/2025	03/22/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 03/24/2025

FROM 0.50000ml of W3180 + 9.50000ml of W3112 = Final Quantity: 10.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3680	Anions 300/9056 calibration standard 5-CCV	WP112439	03/21/2025	03/22/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/24/2025

FROM 45.00000ml of W3112 + 5.00000ml of W3180 = Final Quantity: 50.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3679	Anions 300/9056 calibration standard 6	WP112440	03/21/2025	03/22/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/24/2025

FROM 2.00000ml of W3180 + 8.00000ml of W3112 = Final Quantity: 10.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3681	Anions 300/9056 calibration standard 7	WP112441	03/21/2025	03/22/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/24/2025

FROM 2.50000ml of W3180 + 7.50000ml of W3112 = Final Quantity: 10.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3233	Anions 300/9056 ICV-LCS std	WP112442	03/21/2025	03/22/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/24/2025

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

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4036	IC ELUENT FOR IC-1	WP112443	03/21/2025	04/16/2025	Niha Farheen Shaik	None	None	Iwona Zarych 03/24/2025

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

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4037	IC H2SO4 FOR IC-1	WP112444	03/21/2025	04/21/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 03/24/2025

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

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
127	BOD Dilution fluid	WP112538	03/28/2025	03/29/2025	Rubina Mughal	None	None	Iwona Zarych 03/28/2025

FROM 18.00000L of W3112 + 3.00000PILLOW of W3144 = Final Quantity: 18.000 L



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
129	Glutamic acid-glucose mix for BOD	WP112539	03/28/2025	03/29/2025	Rubina Mughal	WETCHEM_SCALE_7 (WCS-6)	None	Iwona Zarych 03/28/2025
<u>FROM</u> 0.15000gram of W2653 + 0.15000gram of W2654 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
128	polyseed seed control	WP112540	03/28/2025	03/29/2025	Rubina Mughal	None	None	Iwona Zarych 03/28/2025
<u>FROM</u> 1.00000PILLOW of W3059 + 300.00000ml of WP112538 = Final Quantity: 300.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3680	Anions 300/9056 calibration standard 5-CCV	WP112541	03/28/2025	03/29/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 04/01/2025

FROM 45.00000ml of W3112 + 5.00000ml of W3180 = Final Quantity: 50.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3233	Anions 300/9056 ICV-LCS std	WP112542	03/28/2025	03/29/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 04/01/2025

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	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-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 #
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.	AC156212500 / GLUTAMIC ACID BIOCHEM REG, 250G	A0405990	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2653

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	D16-500 / DEXTROSE ANHYDROUS ACS REAGENT, 500G(New)	186122A	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2654

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 / lwona	W3058

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	136742-80 / POLYSEED	152305	05/30/2025	02/15/2024 / Rubina	10/18/2023 / Iwona	W3059

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 #
PCI Scientific Supply, Inc.	4620-32 / MANGANOUS SULFATE SOLUTION-364	2403J02	03/31/2026	04/22/2024 / Iwona	04/22/2024 / Iwona	W3103

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL69870-8 / SODIUM THIOSULFATE,0.025N,4LIT RE	4403S13	09/30/2025	04/22/2024 / Iwona	04/22/2024 / Iwona	W3105

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL04100-4 / Alkaline Iodide Azide, 1 L	1405D67	04/30/2026	05/23/2024 / Iwona	05/23/2024 / Iwona	W3109

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

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
HACH	1486266 / BOD Nutrient Buffer Pillows, 6 mL concentrate to make 6 L, 50/pk	A4169	06/30/2029	11/20/2024 / rubina	10/01/2024 / lwona	W3144

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL70850-8 / Starch Solution, 4L	4408P62	08/31/2026	10/16/2024 / lwona	10/16/2024 / lwona	W3149

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	V2-MEB742616	02/19/2026	02/19/2025 / lwona	01/27/2025 / lwona	W3180

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	TCX0014-500ML / p-xylene	C6PEN	03/19/2029	03/21/2025 / rubina	03/19/2025 / lwona	W3193

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,

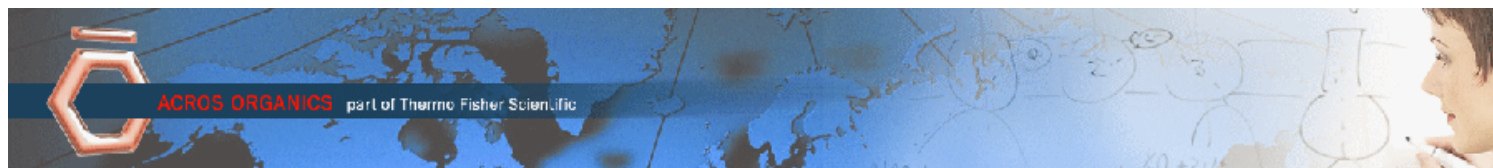
Test	Specification	Result
Assay (NaHCO ₃) (dried basis)	99.7 – 100.3 %	100.1
Insoluble Matter	<= 0.015 %	< 0.002
Chloride (Cl)	<= 0.003 %	0.003
Phosphate (PO ₄)	<= 0.001 %	0.001
Sulfur Compounds (as SO ₄)	<= 0.003 %	0.003
Calcium (Ca)	<= 0.02 %	0.02
Trace Impurities – Iron (Fe)	<= 0.001 %	0.001
Magnesium (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

James Ethier
Jamie Ethier
Vice President Global Quality

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



ACROS
ORGANICS

Version 0
Molecular weight 147.13
Molecular formula C₅ H₉ N O₄
CAS No 56-86-0
Linear formula HO₂CCH₂CH₂CH(NH₂)CO₂H
Flash point (°C)

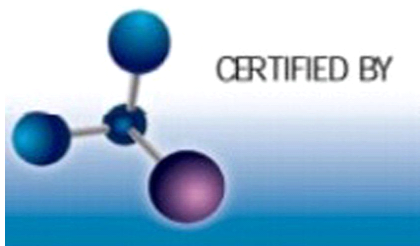
Certificate of Analysis

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. Acros Organics 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 human 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 following information is the actual analytical results obtained.

Catalog Number	15621	Quality Test / Release Date	13 March 2019
Lot Number	A0405990	Suggested Retest Date	March 2022
Description	L(+)-Glutamic acid, 99%		
Country of Origin	CHINA		
Declaration of Origin	plant		

Origin Comment	The product is made by fermentation of sugar molasses
-----------------------	---

Result Name	Specifications	Test Value
Appearance (Color)	White	White
Appearance (Form)	Powder	Powder
Infrared spectrum	Conforms	Conforms
Titration with NaOH	98.5 to 100.5 % (On dried substance)	99.32 % (On dried substance)
Loss on drying	=<0.5 % (105°C, 3 hrs)	0.002 % (105°C, 3 hrs)
Heavy metals (as Pb)	=<10 ppm	=<10 ppm
Sulfated ash	=<0.1 %	0.08 %
Other amino acids	not detectable	not detectable
Specific optical rotation	+30.5° to +32.5° (20°C, 589 nm) (on dried substance)	+32° (20°C, 589 nm) (on dried substance)
Specific optical rotation	(c=10, 2N HCl)	(c=10, 2N HCl)
Chloride (Cl)	=<200 ppm	=<200 ppm
Iron (Fe)	=<30 ppm	=<10 ppm
Sulfate (SO ₄)	=<300 ppm	=<200 ppm
Ammonium (NH ₄)	=<200 ppm	=<200 ppm
Arsenic oxide (As ₂ O ₃)	=<1 ppm	=<1 ppm



A handwritten signature in black ink, which appears to read "L. Van den Broek".

L. Van den Broek, QA Manager

Issued: 24 January 2020

Acros Organics

ENA23, zone 1, nr 1350, Janssen Pharmaceuticaaan 3a, B-2440 Geel, Belgium

Tel +32 14/57.52.11 - Fax +32 14/59.34.34 Internet: <http://www.acros.com>

1 Reagent Lane, Fair Lawn, NJ 07410, USA Fax 201-796-1329

Certificate Of Analysis



W 3058

Re. 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 (PO ₄)	0.001% max.	<0.001%
Potassium (K)	0.005% max.	0.003%
Silica (SiO ₂)	0.005% max.	<0.005%
Sulfur compounds (as SO ₄)	0.003% max.	<0.003%

Joe Schoellkopf

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.

Form number: 00005624CA, Rev. 2.0



CERTIFICATE OF ANALYSIS

PO BOX 130549 Spring, TX 77393
Phone: (281) 298-9410 Fax: (281) 298-9411

W 3059
REC. 10/18/23 12

FINISHED PRODUCT, LOT NUMBER, MFG. /EXP DATE:

PolySeed® • Part No. P-110 • Lot 152305 • Mfg. Date: 05/2023 • Exp. Date: 05/2025

FORMULATION:

The formulation for this product contains a range of naturally occurring microorganisms, which are known to be non-pathogenic to man or animals.

VIABLE COUNT, FINAL TEST RESULT:

The product has been fully tested in accordance with Finished Product Specifications and contains a minimum viable count of 4.00×10^9 cfu/g.

GLUCOSE/GLUTAMIC-ACID RESULTS:

Tested results within acceptable range 198 ± 30.5 mg/L (167.5 - 228.5 mg/L). GGA Lot# L257-09 – Average Test Result: 203.4

See www.polyseed.com for details.

SEED CONTROL FACTOR:

Tested results within acceptable range 0.6 – 1.0 see www.polyseed.com for details

SALMONELLA TEST RESULT:

The product has been shown to be Salmonella negative using procedures recommended in the Microbiology Laboratory Guidebook, published by the USDA Food Safety and Inspection Service.

The purpose of this document is to assure that the Finished Product conforms to the above specification.

Signature: _____

Quality Control Department

Date: 05/15/2023

POLYSEED.Ref.1.19

Revised Jan 23

InterLab®
International Laboratory Supply



Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

W3063
rec. 11/16/23 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).



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, NNO ₃ -	25.00 ± 0.09 µg/mL
Nitrite as N, NNO ₂ -	30.00 ± 0.15 µg/mL	o-Phosphate as P, PPO ₄	50.00 ± 0.18 µg/mL
Sulfate, SO ₄	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:

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

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:

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

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k(u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum(w_i)^2(u_{char i}^2)]^{1/2}$ 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

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k(u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

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; 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

1 Reagent Lane
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	D16	Quality Test / Release Date	03/19/2019
Lot Number	186122A		
Description	DEXTROSE, ANHYDROUS, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Mar/2022
Chemical Origin	Organic - Plant		
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	White, granular powder
TITRATABLE ACID	MEQ/G	<= 0.002	<0.002
STARCH		= PASS TEST	pass test
SPECIFIC ROTATION @ 25 C	DEGREES (+ OR -)	Inclusive Between +52.5 - +53.0	53.0
SULFATE & SULFITE	%	<= 0.005	<0.005
IRON (Fe)	ppm	<= 5	<5
CHLORIDE	%	<= 0.01	<0.01
IGNITION RESIDUE	%	<= 0.02	<0.02
IDENTIFICATION	PASS/FAIL	= PASS TEST	pass test
HEAVY METALS (as Pb)	ppm	<= 5	<5
LOSS ON DRYING @ 105 C	%	<= 0.2	<0.2
INSOLUBLE MATTER	%	<= 0.005	0.002

Jerisa 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.

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

 **avantor**™



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

Certificate of Analysis

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

>>> Continued on page 2 >>>

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

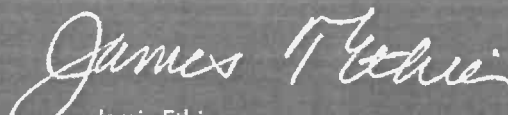


Material No.: 9673-33
Batch No.: 23D2462010

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

For Laboratory, Research, or Manufacturing Use

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


Jamie Ethier
Vice President Global Quality

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

avantor™



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

Certificate of Analysis

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

>>> Continued on page 2 >>>

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

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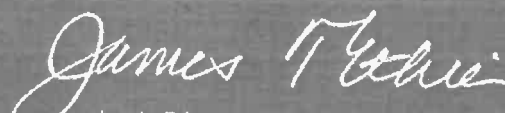


Material No.: 9673-33
Batch No.: 23D2462010

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

For Laboratory, Research, or Manufacturing Use

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


Jamie Ethier
Vice President Global Quality



Certificate of Analysis

Manganous Sulfate Solution, 364 g/L**Lot Number:** 2403J02**Product Number:** 4620**Manufacture Date:** MAR 15, 2024**Expiration Date:** MAR 2026

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Manganous Sulfate Monohydrate	10034-96-5	Reagent
Sulfuric Acid	7664-93-9	ACS

Test	Specification	Result
Appearance	Pink liquid	Passed
Assay (by Refractive Index)	360-368 g/L	367 g/L

Specification	Reference
Manganous Sulfate Solution	ASTM (D 888 A)
Manganous Sulfate Solution	ASTM (D 888 A)
Manganous Sulfate Solution	APHA (4500-O E)
Manganous Sulfate Solution	APHA (4500-O F)
Manganous Sulfate Solution	APHA (4500-O D)
Manganous Sulfate Solution	APHA (4500-O E)
Manganous Sulfate Solution	APHA (4500-O F)
Manganous Sulfate Solution	APHA (4500-O D)
Manganous Sulfate Solution	APHA (4500-O C)
Manganous Sulfate Solution	APHA (4500-O C)
Manganous Sulfate Solution	EPA (360.2)
Manganous Sulfate Solution	EPA (360.2)

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)
4620-32	1 L natural poly	24 months

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



Jose Pena (03/15/2024)

Operations Manager

This document is designed to comply with ISO Guide 31 "Reference Materials --
Contents of Certificates and Labels."

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

Certificate of Analysis

Sodium Thiosulfate, 0.0250 Normal (N/40)

Lot Number: 4403S13

Product Number: 7900

Manufacture Date: MAR 29, 2024

Expiration Date: SEP 2025

This product is specially formulated to increase its stability. A preservative is added to prevent bacterial contamination. However, all Sodium Thiosulfate solutions are subject to slow chemical deterioration and should be restandardized periodically.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Thiosulfate Pentahydrate	10102-17-7	ACS
Organic Preservative	Proprietary	
Sodium Carbonate	497-19-8	ACS

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Assay (vs. Potassium Iodate/Starch)	0.02499-0.02501 N at 20°C	0.02501 N at 20°C	136

Specification	Reference
Standard Sodium Thiosulfate Solution, 0.0250 N	APHA (4500-S2- F)
Standard Sodium Thiosulfate Titrant	APHA (4500-O D)
Standard Sodium Thiosulfate Titrant	APHA (4500-O E)
Standard Sodium Thiosulfate Titrant	APHA (4500-O F)
Standard Sodium Thiosulfate Titrant, 0.025 N	APHA (4500-CI B)
Standard Sodium Thiosulfate Titrant	APHA (4500-O C)
Standard Sodium Thiosulfate Titrant, 0.025 M	APHA (5530 C)
Standard Sodium Thiosulfate Solution (0.025 N)	EPA (SW-846) (9031)
Standard Sodium Thiosulfate solution (0.025 N)	EPA (SW-846) (9034)

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)
7900-1	4 L natural poly	18 months
7900-16	500 mL natural poly	18 months
7900-1CT	4 L Cubitainer®	18 months
7900-32	1 L natural poly	18 months

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



Paul Brandon (03/29/2024)

Production Manager

This document is designed to comply with ISO Guide 31 "Reference Materials --
Contents of Certificates and Labels."

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Certificate of Analysis

Alkaline-Iodide-Azide, Pomeroy Formulation for Dissolved Oxygen (DO) Analysis

Lot Number: 1405D67

Product Number: 535

Manufacture Date: APR 05, 2024

Expiration Date: APR 2026

This solution is intended for use with samples with high Dissolved Oxygen content (above 15 mg/L) and for samples with high concentrations of organic material.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Iodide	7681-82-5	ACS
Sodium Hydroxide	1310-73-2	ACS
Sodium Azide	26628-22-8	Reagent

Test	Specification	Result
Appearance	Colorless liquid	Passed
Free Iodine	To Pass Test	Passed

Specification	Reference
Alkaline Iodide-Sodium Azide Solution II	ASTM (D 888 A)
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)
535-32	1 L natural poly	24 months

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



Heidi J Green (04/05/2024)
Operations Manager

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Certificate of Analysis



Sodium Hydroxide (Pellets)

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

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

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

Storage: Room Temperature

Pellets

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

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

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

Additional Information

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

Product meets analytical specifications of the grades listed.



Sodium Hydroxide (Pellets)

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

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

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

Storage: Room Temperature

Pellets

Spec Set: 0583ACS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

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

Additional Information

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

Product meets analytical specifications of the grades listed.



An ISO 9001 Certified Company

Loveland, CO 80539

(970) 669-3050

Certificate of Analysis

This is a Component of 1486266 / LOT A4169

PRODUCT: BOD Nutrient Buffer Pillows

PRODUCT NUMBER: 1486227

LOT NUMBER: A4169

MANUFACTURE DATE: 06/24/2024

DATE OF ANALYSIS: 07/03/2024

TEST	SPECIFICATIONS	RESULTS
Calcium Concentration of a diluted pillow	0.93 to 1.29 ppm	0.960 ppm
Magnesium Concentration of a diluted pillow	0.35 to 0.48 ppm	0.390 ppm
pH in a 6 L of DI water	7.1 to 7.6	7.37
Ammonia Concentration of a diluted pillow	0.57 to 0.79 ppm	0.593 ppm
Iron Concentration of a diluted pillow	0.27 to 0.36 ppm	0.311 ppm
Sterility	To Pass	Passed
Phosphorus Concentration of a diluted pillow	7.6 to 10.3 ppm	8.32 ppm
Five Day Change in Dissolved Oxygen Concentration	-0.2 to 0.2 ppm	0.03 ppm

The expiration date is Jun 2029

Certified by: *Scott Als*

Analytical Services Chemist



Certificate of Analysis

Starch Indicator, 0.5% (w/v), Mercury Free, for Iodometric Titrations

Lot Number: 4408P62

Product Number: 8000

Manufacture Date: AUG 28, 2024

Expiration Date: AUG 2026

This product is Mercury-free.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Starch, soluble	9005-84-9	ACS
Salicylic Acid	69-72-7	ACS

Test	Specification	Result
Appearance	White translucent liquid	Passed
Suitability for Use	Colorless (Iodine absent) - Blue (Iodine present)	Passed

Specification	Reference
Starch Solution	APHA (4500-S2- F)
Starch Indicator Solution	APHA (4500-CI B)
Starch Indicator	APHA (4500-SO32- B)
Starch indicator solution	APHA (2350 B)
Starch indicator solution	APHA (2350 E)
Starch Solution	APHA (510 B)
Starch Solution	APHA (5530 C)
Starch Indicator	APHA (4500-CI C)
Starch Indicator	EPA (345.1)

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)
8000-1	4 L natural poly	24 months
8000-16	500 mL natural poly	24 months
8000-32	1 L natural poly	24 months

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

A handwritten signature in blue ink that reads "Paul Brandon". The signature is fluid and cursive, with the first name "Paul" and last name "Brandon" clearly distinguishable.

Paul Brandon (08/28/2024)
Production Manager

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Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

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).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Ion Chromatography Solution
Catalog Number: 300-CAL-A
Lot Number: V2-MEB742616
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	30.01 ± 0.13 µg/mL
Fluoride, F-	20.00 ± 0.07 µg/mL	Nitrate as N, NNO ₃ -	25.00 ± 0.10 µg/mL
Nitrite as N, NNO ₂ -	30.00 ± 0.10 µg/mL	o-Phosphate as P, PPO ₄	50.00 ± 0.18 µg/mL
Sulfate, SO ₄	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	08228TH-H2
NNO2-	Calculated	40h	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:

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

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:

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

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k(u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum(w_i)^2(u_{char i}^2)]^{1/2}$ 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

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k(u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

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](https://www.inorganicventures.com); info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 02, 2024

- 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

- **April 02, 2029**

- 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:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Thomas Kozikowski
Stock VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





W3193, W3194 Received on 03/19/2025 by IZ

Certificate of Analysis

03/19/2025(JST)

TOKYO CHEMICAL INDUSTRY CO.,LTD.

T-PLUS Nihonbashi-Kodemmacho

16-12 Nihonbashi-kodemmacho, Chuo-ku, Tokyo 103-0001, Japan

Chemical Name: p-Xylene		
Product Number: X0014 CAS RN: 106-42-3	Lot: C6PEN	

Tests	Results	Specifications
Appearance	Colorless clear liquid	Colorless to Almost colorless clear liquid
Purity(GC)	99.7 %	min. 99.0 %

TCI Lot numbers are 4-5 characters in length. Characters listed after the first 4-5 characters are control numbers for internal purpose only.

The contents of the specifications are subject to change without advance notice. The specification values displayed here are the most up to date values. There may be cases where the product labels display a different specification, however, the product quality still meets the latest specification.

Customer Service:

TCI AMERICA

Tel: +1-800-423-8616 / +1-503-283-1681

Fax: +1-888-520-1075 / +1-503-283-1987

E-mail: Sales-US@TCIchemicals.com

Takuya Nishioka
Quality Assurance Department Manager



SHIPPING DOCUMENTS



284 Sheffield Street, Mountainside, NJ 07092

(908) 789-8900 Fax: (908) 788-9222

www.chemtech.net

CHAIN OF CUSTODY RECORD

Alliance Project Number:

Q16666

COC Number: 2042112

Page 1 of 1

CLIENT INFORMATION

COMPANY: ENTACT, LLC

ADDRESS: 150 Bay Street, Suite 806

CITY: Jersey City STATE: NJ ZIP: 07302

ATTENTION: Jarod Stanfield

PHONE: 570-886-0442

FAX:

PROJECT INFORMATION

PROJECT NAME: 540 Degraw St Brooklyn, NY

PROJECT #: E9309

LOCATION: Brooklyn, NY

PROJECT MANAGER: Jarod Stanfield

E-MAIL: jstanfield@entact.com

PHONE: 570-886-0442

FAX:

BILLING INFORMATION

BILL TO: ENTACT, LLC

PO# E9309

ADDRESS: 999 Oakmont Plaza Drive, Suite 300

CITY: Westmont

STATE: IL ZIP: 60559

ATTENTION: Wendy Murray

PHONE: 800-936-8228

DATA TURNAROUND INFORMATION

FAX: 5 DAYS*
HARD COPY: 5 DAYS*
EDD 5 DAYS*
* TO BE APPROVED BY ALLIANCE
STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

- ☐ RESULTS ONLY ☐ USEPA CLP
☐ RESULTS + QC ☐ New York State ASP "B"
☐ New Jersey REDUCED ☐ New York State ASP "A"
☐ New Jersey CLP ☐ Other _____
☐ EDD Format _____

ANALYSIS

Metals	Flashpoint + PCB	VOC	SVOC + Chloride (Anions)	BOD+TSS					
1	2	3	4	5	6	7	8	9	

PRESERVATIVES

COMMENTS

<- Specify Preservatives
A-HCl B-HNO3
C-H2SO4 D-NaOH
E-ICE F-Other

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# of Bottles	B	E	E	E	E						
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9		
1.	TW-WTS-05	Surface Water		X	3/25	10:00	4	X	X	X	X	X						
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

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

RELINQUISHED BY SAMPLER 1. Jarod Stanfield	DATE/TIME 03/26/25 16:00	RECEIVED BY 1. 1230 3-27-25	Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant ☐ Cooler Temp 3.34 ☐ Ice in Cooler?:
RELINQUISHED BY 2.	DATE/TIME	RECEIVED BY 2.	Comments:
RELINQUISHED BY 3.	DATE/TIME 3-27-25 1638	RECEIVED FOR LAB BY 3.	SHIPPED VIA: CLIENT: ☐ Hand Delivered ☐ Overnight ALLIANCE: ☐ Picked Up ☐ Overnight

Shipment Complete

☐ YES ☐ NO

WHITE - ALLIANCE COPY FOR RETURN TO CLIENT

YELLOW - ALLIANCE COPY

PINK - SAMPLER COPY

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



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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q1666 ENTA05

Order Date : 3/27/2025 1:05:00 PM

Project Mgr :

Client Name : ENTACT

Project Name : 540 Degraw St, Brooklyn, N

Report Type : Level 1

Client Contact : Jarod Stanfield

Receive DateTime : 3/27/2025 ~~12:00:00~~ AM

EDD Type : Excel NJ

Invoice Name : ENTACT

Purchase Order :

16:38

Hard Copy Date :

Invoice Contact : Jarod Stanfield

Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q1666-01	TW-WTS-05	Water	03/25/2025	10:00	VOCMS Group4		8260-Low		5 Bus. Days

Relinquished By : 

Date / Time : 3/28/25 0900

Received By : 

Date / Time : 3.28.25 09:00

Storage Area : VOA Refridgerator Room