IC

Ion Chromatography

- 99.99% High Purity Starting Materials
- 18 Megohm, ASTM type I Water
- Packaged in pre-cleaned high quality HDPE bottles.
- Each Standard is Supplied with a Certificate of Analysis, stating traceability to NIST, certified value and expiration date.
- Final Solution is filtered through a 0.2 µm filter to eliminate contaminants (such as suspended solids and microbes). This extends shelf life and protects your column.
- Ready-To-Use Mixes and Calibration Sets.
- Standards may be used for other "Classical or Wet" methods.

These products do not require Hazardous Shipping charges at this time

Anion Singles		100 µg/mL	200 µg/mL	1,000 µg/mL
Water Matrix	Unit	Cat. No.	Cat. No.	Cat. No.
■ Acetate	100 mL	IC-ACET-1X-1	----------	IC-ACET-10X-1
	500 mL	IC-ACET-1X-5	----------	IC-ACET-10X-5
Br (Bromate) *NEW*	100 mL	----------	----------	IC-BROM-10X-1
	500 mL	----------	----------	IC-BROM-10X-5
Br (Bromide)	100 mL	IC-BR-1X-1	IC-BR-2X-1	IC-BR-10X-1
	500 mL	IC-BR-1X-5	IC-BR-2X-5	IC-BR-10X-5
■ Chlorate	100 mL	IC-CHLR-1X-1	----------	IC-CHLR-10X-1
	500 mL	IC-CHLR-1X-5	----------	IC-CHLR-10X-5
Citrate *NEW*	100 mL	----------	----------	IC-CITR-10X-1
Cl (Chloride)	100 mL	IC-Cl-1X-1	IC-Cl-2X-1	IC-Cl-10X-1
	500 mL	IC-Cl-1X-5	IC-Cl-2X-5	IC-Cl-10X-5
ClO_2 (Chlorite) *NEW*	100 mL	IC-CHLT-1X-1	----------	IC-CHLT-10X-1
	500 mL	IC-CHLT-1X-5	----------	IC-CHLT-10X-5
■ Chromate	100 mL	IC-CHRM-1X-1	----------	IC-CHRM-10X-1
	500 mL	IC-CHRM-1X-5	----------	IC-CHRM-10X-5
F (Fluoride)	100 mL	IC-F-1X-1	IC-F-2X-1	IC-F-10X-1
	500 mL	IC-F-1X-5	IC-F-2X-5	IC-F-10X-5
■ Formate	100 mL	IC-FORM-1X-1	----------	IC-FORM-10X-1
	500 mL	IC-FORM-1X-5	----------	IC-FORM-10X-5
Glycolate *NEW*	100 mL	----------	----------	IC-GLYC-10X-1
Iodide	100 mL	----------	----------	IC-I-10X-1
Lactate *NEW*	100 mL	----------	----------	IC-LACT-10X-1
Malate *NEW*	100 mL	----------	----------	IC-MALA-10X-1
Maleate *NEW*	100 mL	----------	----------	IC-MALE-10X-1
NO_2 (Nitrite)	100 mL	IC-NO2-1X-1	IC-NO2-2X-1	IC-NO2-10X-1
	500 mL	IC-NO2-1X-5	IC-NO2-2X-5	IC-NO2-10X-5
NO_3 (Nitrate)	100 mL	IC-NO3-1X-1	IC-NO3-2X-1	IC-NO3-10X-1
	500 mL	IC-NO3-1X-5	IC-NO3-2X-5	IC-NO3-10X-5
■ Oxalate	100 mL	IC-OXAL-1X-1	----------	IC-OXAL-10X-1
	500 mL	IC-OXAL-1X-5	----------	IC-OXAL-10X-5
Perchlorate *NEW*	100 mL	----------	----------	IC-PER-10X-1
Phthalate *NEW*	100 mL	----------	----------	IC-PHTH-10X-1
PO_4 (Phosphate)	100 mL	IC-PO4-1X-1	IC-PO4-2X-1	IC-PO4-10X-1
	500 mL	IC-PO4-1X-5	IC-PO4-2X-5	IC-PO4-10X-5
Propionate *NEW*	100 mL	----------	----------	IC-PROP-10X-1
Succinate *NEW*	100 mL	----------	----------	IC-SUCC-10X-1
SO_4 (Sulfate)	100 mL	IC-SO4-1X-1	IC-SO4-2X-1	IC-SO4-10X-1
	500 mL	IC-SO4-1X-5	IC-SO4-2X-5	IC-SO4-10X-5
Tartrate *NEW*	100 mL	----------	----------	IC-TART-10X-1

■ **Organic Acid Salt Standards**

Technical Note

Recommended product for EPA Method 300.0 "Determination of Inorganic Anions by IC" and ASTM D-4327-91, "Test Method for Anions in Water by Chemically Suppressed IC." See IC-MAN-14-R2-1 on page 14

Anion Kits

IC-AN-1X-1-SET — **7 x 100 mL**
Each at 100 µg/mL in Water

IC-F-1X-1	Fluoride
IC-Cl-1X-1	Chloride
IC-NO2-1X-1	Nitrite
IC-NO3-1X-1	Nitrate
IC-BR-1X-1	Bromide
IC-PO4-1X-1	Phosphate
IC-SO4-1X-1	Sulfate

IC-AN-1X-5-SET — **7 x 500 mL**
Each at 100 µg/mL in Water

IC-F-1X-5	Fluoride
IC-Cl-1X-5	Chloride
IC-NO2-1X-5	Nitrite
IC-NO3-1X-5	Nitrate
IC-BR-1X-5	Bromide
IC-PO4-1X-5	Phosphate
IC-SO4-1X-5	Sulfate

IC-AN-2X-1-SET — **7 x 100 mL**
Each at 200 µg/mL in Water

IC-F-2X-1	Fluoride
IC-Cl-2X-1	Chloride
IC-NO2-2X-1	Nitrite
IC-NO3-2X-1	Nitrate
IC-BR-2X-1	Bromide
IC-PO4-2X-1	Phosphate
IC-SO4-2X-1	Sulfate

IC-AN-2X-5-SET — **7 x 500 mL**
Each at 200 µg/mL in Water

IC-F-2X-5	Fluoride
IC-Cl-2X-5	Chloride
IC-NO2-2X-5	Nitrite
IC-NO3-2X-5	Nitrate
IC-BR-2X-5	Bromide
IC-PO4-2X-5	Phosphate
IC-SO4-2X-5	Sulfate

IC-AN-10X-1-SET — **7 x 100 mL**
Each at 1000 µg/mL in Water

IC-F-10X-1	Fluoride
IC-Cl-10X-1	Chloride
IC-NO2-10X-1	Nitrite
IC-NO3-10X-1	Nitrate
IC-BR-10X-1	Bromide
IC-PO4-10X-1	Phosphate
IC-SO4-10X-1	Sulfate

IC-AN-10X-5-SET — **7 x 500 mL**
Each at 1000 µg/mL in Water

IC-F-10X-5	Fluoride
IC-Cl-10X-5	Chloride
IC-NO2-10X-5	Nitrite
IC-NO3-10X-5	Nitrate
IC-BR-10X-5	Bromide
IC-PO4-10X-5	Phosphate
IC-SO4-10X-5	Sulfate

Ion Chromatography

Anion Singles as the Element

	Unit	100 µg/mL	1000 µg/mL
NO_2-N (Nitrite-Nitrogen)	100 mL	IC-NO2-N-1X-1	IC-NO2-N-10X-1
Water Matrix	500 mL	IC-NO2-N-1X-5	IC-NO2-N-10X-5
NO_3-N (Nitrate-Nitrogen)	100 mL	IC-NO3-N-1X-1	IC-NO3-N-10X-1
Water Matrix	500 mL	IC-NO3-N-1X-5	IC-NO3-N-10X-5
PO_4-P (Phosphate-Phosphorous)	100 mL	IC-PO4-P-1X-1	IC-PO4-P-10X-1
Water Matrix	500 mL	IC-PO4-P-1X-5	IC-PO4-P-10X-5
SO_4-S (Sulfate-Sulfur)	100 mL	IC-SO4-S-1X-1	IC-SO4-S-10X-1
Water Matrix	500 mL	IC-SO4-S-1X-5	IC-SO4-S-10X-5
NH_4-N (Ammonium-Nitrogen)	100 mL	IC-NH4-N-1X-1	IC-NH4-N-10X-1
Water Matrix	500 mL	IC-NH4-N-1X-5	IC-NH4-N-10X-5

Anion Single as the Element Kits

IC-AN-R-10X-1-SET — 7 x 100 mL
Each at 1000 µg/mL

IC-F-10X-1	Fluoride
IC-Cl-10X-1	Chloride
IC-NO2-N-10X-1	Nitrite-Nitrogen
IC-NO3-N-10X-1	Nitrate-Nitrogen
IC-BR-10X-1	Bromide
IC-PO4-P-10X-1	Phosphate-Phosphorous
IC-SO4-S-10X-1	Sulfate-Sulfur

IC-AN-R-10X-5-SET — 7 x 500 mL
Each at 1000 µg/mL

IC-F-10X-5	Fluoride
IC-Cl-10X-5	Chloride
IC-NO2-N-10X-5	Nitrite-Nitrogen
IC-NO3-N-10X-5	Nitrate-Nitrogen
IC-BR-10X-5	Bromide
IC-PO4-P-10X-5	Phosphate-Phosphorous
IC-SO4-S-10X-5	Sulfate-Sulfur

Anion Mixes

Anion Mix #1

IC-MAN-01-1 — 100 mL
Water Matrix — 5 comps.

F (Fluoride)	20 µg/mL
Cl (Chloride)	30 µg/mL
NO_3 (Nitrate)	100 µg/mL
PO_4 (Phosphate)	150 µg/mL
SO_4 (Sulfate)	150 µg/mL

Anion Mix #2

IC-MAN-02-1 — 100 mL
Water Matrix — 6 comps.

F (Fluoride)	100 µg/mL
Cl (Chloride)	200 µg/mL
Br (Bromide)	400 µg/mL
NO_3 (Nitrate)	400 µg/mL
PO_4 (Phosphate)	600 µg/mL
SO_4 (Sulfate)	400 µg/mL

Anion Mix #3

IC-MAN-03-1 — 100 mL
Water Matrix — 3 comps.

F (Fluoride)	100 µg/mL
Cl (Chloride)	100 µg/mL
SO_4 (Sulfate)	100 µg/mL

Technical Note

To enhance the shelf life and long term stability of our IC products, Nitrite has been split out of mixes that contain Nitrate.

Anion Mix #4

IC-MAN-04-1 — 100 mL
Water Matrix — 6 comps.

F (Fluoride)	100 µg/mL
Cl (Chloride)	100 µg/mL
Br (Bromide)	100 µg/mL
NO_3 (Nitrate)	100 µg/mL
PO_4 (Phosphate)	100 µg/mL
SO_4 (Sulfate)	100 µg/mL

Anion Mix #5

IC-MAN-05-R1-1 — 100 mL
Water Matrix — 6 comps.

F (Fluoride)	10 µg/mL
Cl (Chloride)	20 µg/mL
Br (Bromide)	20 µg/mL
NO_3 (Nitrate)	20 µg/mL
PO_4 (Phosphate)	5 µg/mL
SO_4 (Sulfate)	30 µg/mL

Anion Mix #6

IC-MAN-06-R1-1 — 100 mL
Water Matrix — 6 comps.

F (Fluoride)	1 µg/mL
Cl (Chloride)	5 µg/mL
Br (Bromide)	5 µg/mL
NO_3 (Nitrate)	5 µg/mL
PO_4 (Phosphate)	5 µg/mL
SO_4 (Sulfate)	10 µg/mL

Technical Note

We offer several Nitrite concentrations that can be added just prior to analysis for maximum stability.

Anion Mix #7

IC-MAN-07-R1-1 — 100 mL
Water Matrix — 6 comps.

F (Fluoride)	1 µg/mL
Cl (Chloride)	10 µg/mL
Br (Bromide)	10 µg/mL
NO_3 (Nitrate)	10 µg/mL
PO_4 (Phosphate)	10 µg/mL
SO_4 (Sulfate)	10 µg/mL

Anion Mix #8

IC-MAN-08-R1-1 — 100 mL
Water Matrix — 6 comps.

F (Fluoride)	10 µg/mL
Cl (Chloride)	20 µg/mL
Br (Bromide)	20 µg/mL
NO_3 (Nitrate)	20 µg/mL
PO_4 (Phosphate)	20 µg/mL
SO_4 (Sulfate)	20 µg/mL

IC-MAN-CAL-SET — 5 units
Contains one each of:

- CLP-BLW-5 (500 mL)
- IC-MAN-07-R1-1 (100 mL)
- IC-MAN-08-R1-1 (100 mL)
- IC-MAN-09-R1-1 (100 mL)
- IC-MAN-10-R1-1 (100 mL)

Anion Mix #9

IC-MAN-09-R1-1 — 100 mL
Water Matrix — 6 comps.

F (Fluoride)	20 µg/mL
Cl (Chloride)	40 µg/mL
Br (Bromide)	40 µg/mL
NO_3 (Nitrate)	40 µg/mL
PO_4 (Phosphate)	40 µg/mL
SO_4 (Sulfate)	40 µg/mL

Anion Mix #10

IC-MAN-10-R1-1 — 100 mL
Water Matrix — 6 comps.

F (Fluoride)	25 µg/mL
Cl (Chloride)	50 µg/mL
Br (Bromide)	50 µg/mL
NO_3 (Nitrate)	50 µg/mL
PO_4 (Phosphate)	50 µg/mL
SO_4 (Sulfate)	50 µg/mL

Technical Note

This Ready-to-Use set of standards can be used to generate a 5 point calibration curve (including blank).

These products do not require Hazardous Shipping charges at this time

See Next page for Additional Ion Chrom Anion Mixtures

IC

Ion Chromatography

Anion Mixes (continued)

Anion Mix #11

IC-MAN-11-1 — **100 mL**

Water Matrix	5 comps.
Cl (Chloride)	1000 µg/mL
Br (Bromide)	1000 µg/mL
NO_3 (Nitrate)	1000 µg/mL
PO_4 (Phosphate)	1000 µg/mL
SO_4 (Sulfate)	1000 µg/mL

Anion Mix #12

IC-MAN-12-1 — **100 mL**

Water Matrix	5 comps.
Cl (Chloride)	15 µg/mL
Br (Bromide)	15 µg/mL
NO_3 (Nitrate)	15 µg/mL
PO_4 (Phosphate)	15 µg/mL
SO_4 (Sulfate)	15 µg/mL

Anion Mix #13

IC-MAN-13-1 — **100 mL**

Water Matrix	3 comps.
F (Fluoride)	25 µg/mL
Cl (Chloride)	50 µg/mL
SO_4 (Sulfate)	100 µg/mL

Anion Mix #14

IC-MAN-14-R3-1 — **100 mL**

Water Matrix	6 comps.
F (Fluoride)	20 µg/mL
Cl (Chloride)	30 µg/mL
NO_3 (Nitrate)	100 µg/mL
Br (Bromide)	100 µg/mL
PO_4 (Phosphate)	150 µg/mL
SO_4 (Sulfate)	150 µg/mL

Anion Mix #14 Revised

IC-MAN-14-R2-1 — **100 mL**

Water Matrix	6 comps.
F (Fluoride)	20 µg/mL
Cl (Chloride)	30 µg/mL
Br (Bromide)	100 µg/mL
NO_3-N (Nitrate-Nitrogen)	100 µg/mL
PO_4-P (Phosphate-Phosphorus)	150 µg/mL
SO_4 (Sulfate)	150 µg/mL

IC-MAN-14-R2 plus IC-NO2-N-1X is perfect for EPA Method 300.1

Anion Mix #15

IC-MAN-15-R2-1 — **100 mL**

Water Matrix	3 comps.
F *(Fluoride)*	100 µg/mL
NO_3 *(Nitrate)*	100 µg/mL
PO_4 *(Phosphate)*	100 µg/mL

Anion Mix #16

IC-MAN-16-R1-1 — **100 mL**

Water Matrix	6 comps.
F (Fluoride)	100 µg/mL
Cl (Chloride)	200 µg/mL
Br (Bromide)	100 µg/mL
NO_3 (Nitrate)	20 µg/mL
PO_4 (Phosphate)	30 µg/mL
SO_4 (Sulfate)	20 µg/mL

NEW

Dichloroacetate Surrogate Standard

M-300.1-SS — **100 mL**

0.5 mg/mL Dichloroacetate in Water

Anion Mix #17

IC-MAN-17-R1-1 — **100 mL**

Water Matrix	5 comps.
Cl (Chloride)	20 µg/mL
Br (Bromide)	12 µg/mL
NO_3 (Nitrate)	12 µg/mL
PO_4 (Phosphate)	12 µg/mL
SO_4 (Sulfate)	80 µg/mL

Anion Mix #18

IC-MAN-18-R1-1 — **100 mL**

Water Matrix	5 comps.
F (Fluoride)	100 µg/mL
Cl (Chloride)	100 µg/mL
NO_3 (Nitrate)	100 µg/mL
PO_4 (Phosphate)	100 µg/mL
SO_4 (Sulfate)	100 µg/mL

Nitrite

IC-NO2-10X-1	**100 mL**
NO_2 *(Nitrite)*	1000 µg/mL
IC-NO2-1X-1	**100 mL**
NO_2 *(Nitrite)*	100 µg/mL
IC-NO2-0.1X-1	**100 mL**
NO_2 *(Nitrite)*	10 µg/mL
IC-NO2-N-1X-1	**100 mL**
NO_2 *(Nitrite)*	100 µg/mL

Method 314.0 Perchlorate in Drinking Water by IC

Perchlorate has become an analyte of environmental interest since being detected in a number of drinking and groundwater supplies located in Midwestern states. EPA method 314.0 was released as an approved method to achieve the required sensitivity.

Perchlorate Standard

IC-PER-10X-1 — **100 mL**

1000 µg/mL in Water

Perchlorate

Mixed Common Anion Stock

M-314.0-MCA-250X-1

100 mL

25 mg/mL in Water — 3 comps.

Chloride
Sulfate
Carbonate

Conductivity Meter Calibration Standard

M-314.0-CMCS-1 — **100 mL**

1410 µs/cm @ 25˚C in Water

Method 314.0 Perchlorate Calibration Set

M-314.0-SET — **100 mL**

IC-PER-10X-1
M-314.0-MCA-250X-1
M-314.0-CMCS-1

Easy to use, ready to dilute concentrates. Open a fresh bottle and dilute the volume (50 mL to 5 L or 100 mL to 10 L) and be assured of a fresh uncontaminated mobile phase.

Ion Chrom Eluents

0.5 M Sodium bicarbonate (100X concentrate)	**50 mL** IC-ELU-01-0.5	**100 mL** IC-ELU-01-1	**5 x 50 mL** IC-ELU-01-0.5-PAK	**5 x 100 mL** IC-ELU-01-1-PAK
0.5 M Sodium carbonate (100X concentrate)	**50 mL** IC-ELU-02-0.5	**100 mL** IC-ELU-02-1	**5 x 50 mL** IC-ELU-02-0.5-PAK	**5 x 100 mL** IC-ELU-02-1-PAK
0.18 M Sodium carbonate/ 0.17 M Sodium bicarbonate (100X concentrate)	**50 mL** IC-ELU-03-0.5	**100 mL** IC-ELU-03-1	**5 x 50 mL** IC-ELU-03-0.5-PAK	**5 x 100 mL** IC-ELU-03-1-PAK

These products do not require Hazardous Shipping charges at this time

Ion Chromatography

IC

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Cation Singles		100 µg/mL	200 µg/mL	1,000 µg/mL
Dilute HNO_3 Matrix	**Unit**	**Cat. No.**	**Cat. No.**	**Cat. No.**
NH_4 (Ammonium)	100 mL	IC-NH4-1X-1	IC-NH4-2X-1	IC-NH4-10X-1 †
	500 mL	IC-NH4-1X-5	IC-NH4-2X-5	IC-NH4-10X-5 †
Ba (Barium)	100 mL	IC-BA-1X-1	IC-BA-2X-1	IC-BA-10X-1
	500 mL	IC-BA-1X-5	IC-BA-2X-5	IC-BA-10X-5
Ca (Calcium)	100 mL	IC-CA-1X-1	IC-CA-2X-1	IC-CA-10X-1
	500 mL	IC-CA-1X-5	IC-CA-2X-5	IC-CA-10X-5
Li (Lithium)	100 mL	IC-LI-1X-1	IC-LI-2X-1	IC-LI-10X-1
	500 mL	IC-LI-1X-5	IC-LI-2X-5	IC-LI-10X-5
Mg (Magnesium)	100 mL	IC-MG-1X-1	IC-MG-2X-1	IC-MG-10X-1
	500 mL	IC-MG-1X-5	IC-MG-2X-5	IC-MG-10X-5
K (Potassium)	100 mL	IC-K-1X-1	IC-K-2X-1	IC-K-10X-1
	500 mL	IC-K-1X-5	IC-K-2X-5	IC-K-10X-5
Na (Sodium)	100 mL	IC-NA-1X-1	IC-NA-2X-1	IC-NA-10X-1
	500 mL	IC-NA-1X-5	IC-NA-2X-5	IC-NA-10X-5
Sr (Strontium)	100 mL	IC-SR-1X-1	IC-SR-2X-1	IC-SR-10X-1
	500 mL	IC-SR-1X-5	IC-SR-2X-5	IC-SR-10X-5

TRACEABLE Acculon Reference Standards CERTIFIED

† 1,000 µg/mL as Ammonium (NH_4) Other Nitrogen species equivalents are:
NH_3 (Ammonia) = 944 µg/mL
N (Nitrogen) = 776 µg/mL

Cation Kits

IC-CAT-1X-1-SET — **8 x 100 mL**
Each at 100 µg/mL in Dilute HNO_3

IC-CA-1X-1	Calcium
IC-NH4-1X-1	Ammonium
IC-MG-1X-1	Magnesium
IC-K-1X-1	Potassium
IC-NA-1X-1	Sodium
IC-LI-1X-1	Lithium
IC-BA-1X-1	Barium
IC-SR-1X-1	Strontium

IC-CAT-1X-5-SET — **8 x 500 mL**
Each at 100 µg/mL in Dilute HNO_3

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IC-NH4-1X-5	Ammonium
IC-MG-1X-5	Magnesium
IC-K-1X-5	Potassium
IC-NA-1X-5	Sodium
IC-LI-1X-5	Lithium
IC-BA-1X-5	Barium
IC-SR-1X-5	Strontium

IC-CAT-2X-1-SET — **8 x 100 mL**
Each at 200 µg/mL in Dilute HNO_3

IC-CA-2X-1	Calcium
IC-NH4-2X-1	Ammonium
IC-MG-2X-1	Magnesium
IC-K-2X-1	Potassium
IC-NA-2X-1	Sodium
IC-LI-2X-1	Lithium
IC-BA-2X-1	Barium
IC-SR-2X-1	Strontium

IC-CAT-2X-5-SET — **8 x 500 mL**
Each at 200 µg/mL in Dilute HNO_3

IC-CA-2X-5	Calcium
IC-NH4-2X-5	Ammonium
IC-MG-2X-5	Magnesium
IC-K-2X-5	Potassium
IC-NA-2X-5	Sodium
IC-LI-2X-5	Lithium
IC-BA-2X-5	Barium
IC-SR-2X-5	Strontium

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Each at 1000 µg/mL in Dilute HNO_3

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IC-NH4-10X-1	Ammonium
IC-MG-10X-1	Magnesium
IC-K-10X-1	Potassium
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IC-LI-10X-1	Lithium
IC-BA-10X-1	Barium
IC-SR-10X-1	Strontium

IC-CAT-10X-5-SET — **8 x 500 mL**
Each at 1000 µg/mL in Dilute HNO_3

IC-CA-10X-5	Calcium
IC-NH4-10X-5	Ammonium
IC-MG-10X-5	Magnesium
IC-K-10X-5	Potassium
IC-NA-10X-5	Sodium
IC-LI-10X-5	Lithium
IC-BA-10X-5	Barium
IC-SR-10X-5	Strontium

Cation Mixes

Cation Mix #1

IC-MCA-01-1 — **100 mL**
Dilute HNO_3 — 6 comps.

Ca (Calcium)	1000 µg/mL
NH_4 (Ammonium)	400 µg/mL
Mg (Magnesium)	200 µg/mL
K (Potassium)	200 µg/mL
Na (Sodium)	200 µg/mL
Li (Lithium)	50 µg/mL

Cation Mix #2

IC-MCA-02-1 — **100 mL**
Dilute HNO_3 — 6 comps.

Ca (Calcium)	100 µg/mL
NH_4 (Ammonium)	100 µg/mL
Mg (Magnesium)	100 µg/mL
K (Potassium)	100 µg/mL
Na (Sodium)	100 µg/mL
Li (Lithium)	100 µg/mL

Cation Mix #3

IC-MCA-03-1 — **100 mL**
Dilute HNO_3 — 4 comps.

Ca (Calcium)	100 µg/mL
NH_4 (Ammonium)	100 µg/mL
Na (Sodium)	50 µg/mL
Li (Lithium)	10 µg/mL

Cation Mix #4

IC-MCA-04-1 — **100 mL**
Dilute HNO_3 — 4 comps.

Ca *(Calcium)*	400 µg/mL
Mg *(Magnesium)*	200 µg/mL
Ba *(Barium)*	1600 µg/mL
Sr *(Strontium)*	600 µg/mL

Cation Mix #5

IC-MCA-05-1 — **100 mL**
Dilute HNO_3 — 4 comps.

NH_4 (Ammonium)	3 µg/mL
K (Potassium)	6 µg/mL
Na (Sodium)	3 µg/mL
Li (Lithium)	0.5 µg/mL

Cation Mix #6

IC-MCA-06-1 — **100 mL**
Dilute HNO_3 — 6 comps.

Ca (Calcium)	2 µg/mL
NH_4 (Ammonium)	1.5 µg/mL
Mg (Magnesium)	2 µg/mL
K (Potassium)	2.5 µg/mL
Na (Sodium)	1.5 µg/mL
Li (Lithium)	0.2 µg/mL

Wet Chemicals

Our Wet Chemical Line offers Inorganic Chemists the certified standards they need. All of our Wet Chemical standards are subjected to the same rigorous quality control procedures as our ICP and IC standards.

Each Standard is prepared from the highest quality raw material, according to ASTM, EPA or "*Standard Methods*"[1] procedures. All the balances used in the preparation are calibrated regularly with NIST traceable weights.

Each batch of finished standards is then analyzed to verify concentration, with NIST standards where possible. Finally, each batch is packaged for the maximum stability and shelf life so that you receive the best possible product.

[1] Standard Methods for the Examination of Water and Wastewater. American Public Health Association, American Water Works Association, Water Environment Federation

Recommended Calibration Standard Reference Chart

Physical & Aggregate Properties	Standard Method	EPA Method	Wet Chemical Line Cat. No.
Turbidity	2130	180	WC-TURB-4X-1
Alkalinity	2320	310	WC-ALK-10X-1
Hardness	2340	130	WC-HARD-10X-1
Conductivity	2510	120	WC-COND-10X-1
Solids	2540	160	WC-SOL
Inorganic Nonmetallic Constituents			
Bromide	4500-Br$^-$	320	IC-BR-10X-1
Ion Chromatography	4110	300	IC-MAN-14-R3-1
Cyanide	4500-CN$^-$	335	WC-CN-10X-1
Chlorine	4500-Cl	330	WC-TRC-10X-10ML
Chloride	4500-Cl$^-$	325	IC-CL-10X-1
Fluoride	4500-F$^-$	340	IC-F-10X-1
pH Value	4500-H$^+$	150	WC-PH-4-1
Iodide	4500-I$^-$	345	IC-I-10X-1
Nitrogen (Ammonia)	4500-NH_3	350	IC-NH4-N-10X-1
Nitrogen (Nitrite)	4500-NO_2^-	353	IC-NO2-N-10X-1
Nitrogen (Nitrate)	4500-NO_3^-	352	IC-NO3-N-10X-1
Nitrogen (Organic)	4500-N_{org}	351	WC-TON-10X-1
Phosphorus	4500-P	365	IC-PO4-P-10X-1
Silica	4500-SiO_2	370	WC-SIO2-10X-1
Sulfate	4500-SO_4	375	IC-SO4-10X-1
Aggregate Organic Constituents			
Biochemical Oxygen Demand (BOD)	5210	405	WC-BOD-10ML
Chemical Oxygen Demand (COD)	5220	410	WC-COD-5X-10ML
Total Organic Carbon (TOC)	5310	415	WC-TOC-10X-1
Oil and Grease	5520	413	WC-OILG-10X-1
Phenols	5530	420	WC-PHEN-10X-1

These products require a Hazardous Shipping Charge

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Chemical Reference Standards

Wet Chemicals

Inorganic Nonmetallic Constituents

Many of these methods use classical wet chemical methods to determine the components of either potable or wastewater.

Bromide
IC-BR-10X-1 — **100 mL**
1000 µg/mL Bromide in Water

Method 300.1 Ion Chrom Standard Revised
IC-MAN-14-R2-1 — **100 mL**
At stated conc. in Water — 6 comps.

F (Fluoride)	20 µg/mL
Cl (Chloride)	30 µg/mL
Br (Bromide)	100 µg/mL
N-NO_3 (Nitrogen-Nitrate)	100 µg/mL
P-PO_4 (Phosphorus-Phosphate)	150 µg/mL
SO_4 (Sulfate)	150 µg/mL

Technical Note

This product was designed to more closely meet the EPA standard by having the concentrations for the nutrients calculated back to the element rather than to the anion.

Dichloroacetate Surrogate Standard
NEW
M-300.1-SS — **100 mL**
0.5 mg/mL Dichloroacetate in Water

Cyanide
WC-CN-10X-1 — **100 mL**
1000 µg/mL Cyanide in Water tr. NaOH

Chloride
IC-CL-10X-1 — **100 mL**
1000 µg/mL Chloride in Water

Total Residual Chlorine
WC-TRC-10X-10ML — **10 mL**
1000 µg/mL Chlorine in Water

Technical Note

This product is shipped in an amber flame sealed ampule for maximum stability.

Fluoride
IC-F-10X-1 — **100 mL**
1000 µg/mL Fluoride in Water

Iodide
IC-I-10X-1 — **100 mL**
1000 µg/mL Iodide in Water

pH
WC-PH-4-1 — **100 mL**
pH of 4.0 in Water
WC-PH-7-1 *NEW* — **100 mL**
pH of 7.0 in Water
WC-PH-10-1 *NEW* — **100 mL**
pH of 10.0 in Water

Phosphorus - Total
IC-PO4-P-10X-1 — **100 mL**
1000 µg/mL Phosphorus in Water

Technical Note

Can also be used for ortho-phosphate analysis.

Technical Note

Nitrogen Species are all calculated back to the Nitrogen - not to the Anion or Cation species.

Nitrogen - Ammonia
IC-NH4-N-10X-1 — **100 mL**
1000 µg/mL Ammonium in Water

Nitrogen - Nitrite
IC-NO2-N-10X-1 — **100 mL**
1000 µg/mL Nitrite in Water

Nitrogen - Nitrate
IC-NO3-N-10X-1 — **100 mL**
1000 µg/mL Nitrate in Water

Nitrogen - Total Organic
WC-TON-10X-1 — **100 mL**
1000 µg/mL Total Organic Nitrogen in Water

Total Kjedahl Nitrogen
WC-TKN-10X-1 — **100 mL**
1000 µg/mL TKN in Water

Silica
WC-SIO2-10X-1 — **100 mL**
1000 µg/mL as Silica (SiO_2) in Water tr. HF

Sulfate
IC-SO4-10X-1 — **100 mL**
1000 µg/mL SO_4 in Water

Physical & Aggregate Properties

These Standards are concerned primarily with measuring actual physical characteristics of a sample as opposed to the chemical characteristics. These analytes are measured frequently in both drinking and waste waters.

Turbidity
WC-TURB-4X-1 — **100 mL**
400 NTU non-ratio Turbidity Standard
A stable solution of microspheres in an aqueous matrix. Can be diluted in turbidity free water to make a calibration curve.
Do not shake prior to use.

Alkalinity
WC-ALK-10X-1 — **100 mL**
1000 µg/mL $CaCO_3$ equivalent to pH 4.5

Hardness
WC-HARD-10X-1 — **100 mL**
1000 µg/mL equivalent $CaCO_3$
A combination of Ca and Mg to give an approximate concentration of 1000 µg/mL $CaCO_3$. Hardness µg/mL equivalent $CaCO_3$ = 2.497 [Ca µg/mL] + 4.118 [Mg µg/mL]

Conductivity
WC-COND-10X-1 — **100 mL**
1000 µmhos in water

Solids
WC-SOL — **sample**
2 comps.
1000 ppm TSS (Total Suspended Solids) and 1000 ppm TDS (Total Disolved Solids) for a 2000 ppm TS (Total Solids).

Dilute to 100 mL. Rinse vial and cap several times to recover all solids.

Wet Chemicals

Aggregate Organic

Rather than determining individual organic analytes, these Standards are used to determine organic matter in broad categories, based primarily on how they react.

Biochemical Oxygen Demand (BOD)

WC-BOD-10ML **10 mL**
100 µg/mL BOD

75 mg/L glucose and 75 mg/L glutamic acid provided in a flame sealed ampule. Dilute to 1L immediately before use.

Chemical Oxygen Demand (COD)

WC-COD-5X-10ML **10 mL**
500 µg/mL COD in water

Total Organic Carbon (TOC)

WC-TOC-10X-1 **100 mL**
1000 µg/mL TOC

Conductivity

WC-COND-10X-1 **100 mL**
1000 µmhos in water

Oil and Grease

WC-OILG-10X-1 **100 mL**
1000 µg/mL Total Oil and Grease in n-Propanol

Contains 500 µg/mL vegetable oil and 500 µg/mL of petroleum oil. Shake well before use.

Phenols

WC-PHEN-10X-1 **100 mL**
1000 µg/mL Phenol in water.

WET CHEMICALS	QTY./CONC.	MATRIX	CAT. NO.	UNIT
Alkalinity	1000 µg/mL	Water	WC-ALK-10X-1	100 mL
Ammonium	100 µg/mL	Water	IC-NH4-1X-1	100 mL
	200 µg/mL	Water	IC-NH4-2X-1	100 mL
	1000 µg/mL	Water	IC-NH4-10X-1	100 mL
Ammonium as Nitrogen	100 µg/mL	Water	IC-NH4-N-1X-1	100 mL
	1000 µg/mL	Water	IC-NH4-N-10X-1	100 mL
Biological Oxygen Demand (BOD)	100 µg/mL	Water	WC-BOD-10ML	10 mL
Bromate	1000 µg/mL	Water	IC-BROM-10X-1	100 mL
Bromide	100 µg/mL	Water	IC-BR-1X-1	100 mL
	200 µg/mL	Water	IC-BR-2X-1	100 mL
	1000 µg/mL	Water	IC-BR-10X-1	100 mL
Chemical Oxygen Demand (COD)	500 µg/mL	Water	WC-COD-5X-10ML	10 mL
Chloride	100 µg/mL	Water	IC-CL-1X-1	100 mL
	200 µg/mL	Water	IC-CL-2X-1	100 mL
	1000 µg/mL	Water	IC-CL-10X-1	100 mL
Chlorite ***NEW***	1000 µg/mL	Water	IC-CHLT-10X-1	100 mL
Conductivity	1000 µg/mL	Water	WC-COND-10X-1	100 mL
Cyanide	100 µg/mL	Sodium Hydroxide:Water	WC-CN-1X-1	100 mL
	1000 µg/mL	Sodium Hydroxide:Water	WC-CN-10X-1	100 mL
Hardness	1000 µg/mL	Water	WC-HARD-10X-1	100 mL
Hexavalent Chromium (Cr^{6+})	1000 µg/mL	Water	WC-HEX-10X-1	100 mL
Methylene Blue Activated Substance (MBAS)	1000 µg/mL	Water	WC-MBAS-10X-1	100 mL
Nitrite	100 µg/mL	Water	IC-NO2-1X-1	100 mL
	200 µg/mL	Water	IC-NO2-2X-1	100 mL
	1000 µg/mL	Water	IC-NO2-10X-1	100 mL
Nitrite as Nitrogen	100 µg/mL	Water	IC-NO2-N-1X-1	100 mL
	1000 µg/mL	Water	IC-NO2-N-10X-1	100 mL
Oil and Grease (Total Oil & Grease)	1000 µg/mL	n-Propanol	WC-OILG-10X-1	100 mL
Perchlorate	1000 µg/mL	Water	IC-PER-10X-1	100 mL
pH	4 pH units	Water	WC-PH-4-1	100 mL
	7 pH units	Water	WC-PH-7-1 ***NEW***	100 mL
	10 pH units	Water	WC-PH-10-1 ***NEW***	100 mL
Phenol	1000 µg/mL	Water	WC-PHEN-10X-1	100 mL
Silicon dioxide	1000 µg/mL	Water tr. HF	WC-SIO2-10X-1	100 mL
Solids	2000 µg/mL		WC-SOL	1 unit
Total Organic Carbon (TOC)	1000 µg/mL	Water	WC-TOC-10X-1	100 mL
Total Organic Halides (TOX)	1000 µg/mL	MeOH	WC-TOX-10X	1 mL
	1000 µg/mL	MeOH	WC-TOX-10X-PAK	5 x 1 mL
Total Kjeldahl Nitrogen (TKN) ***NEW***	1000 µg/mL	Water	WC-TKN-10X-1	100 mL
Total Organic Nitrogen (TON)	1000 µg/mL	Water	WC-TON-10X-1	100 mL
Total Residual Chlorine (TRC)	1000 µg/mL	Water	WC-TRC-10X-10ML	10 mL
Turbidity - Non-Ratio	400 NTU	Water	WC-TURB-4X-1	100 mL

These products require a Hazardous Shipping Charge

TPH, Oil and Grease

AccuStandard offers the widest selection of Petroleum standards. These TPH oil analysis standards are a sample of the hundreds in our Organic Catalog.

Method 1664 Oil, Grease & Total Petroleum Hydrocarbon (TPH)

Precision and Recovery (PAR) Spiking Solution

M-1664-5ML — **1 x 5 mL**
M-1664-5ML-PAK — *SAVE 20%* — **5 x 5 mL**
4.0 mg/mL each in Acetone — 2 comps.
M-1664-20ML — **1 x 20 mL**
M-1664-20ML-PAK — *SAVE 20%* — **5 x 20 mL**
4.0 mg/mL each in Acetone — 2 comps.

Hexadecane
Stearic acid

Technical Note

Precison and Recovery (PAR) Spiking Solution was developed for the new Method 1664. This performance based method was developed to replace previous gravimetric procedures incorporating Freon-113 as the extraction solvent for the determination of Oil and Grease and Total Petroleum Hydrocarbons. Each standard is packaged in a flame sealed ampule conveniently sized for quality control of the analytical batch.

Method 413.2 & 418.1 Total Petroleum Hydrocarbon Analysis by IR

Oil, Grease & Petroleum Hydrocarbon Concentrates Mix

M-418-CON — **1 x 1 mL**
% by volume — 3 comps.

Chlorobenzene	(25.0)	Hexadecane	(37.5)
Isooctane	(37.5)		

Oil, Grease and Petroleum Hydrocarbon Total Recoverable (IR Method)

M-418 — **1 x 1 mL**
M-418-PAK — *SAVE 20%* — **5 x 1 mL**
Total 4.15 mg/mL in Freon 113, (Parts by volume) — 3 comps.

Chlorobenzene	(10.0)	Isooctane	(15.0)
n-Hexadecane	(15.0)		

Method 8440 Total Petroleum Hydrocarbon Analysis

Total Recoverable Petroleum Hydrocarbon Mix

M-8440 — **1 x 1 mL**
M-8440-PAK — *SAVE 20%* — **5 x 1 mL**
At stated conc. in Tetrachloroethene — 3 comps.

Chlorobenzene	(0.10 w/w %)	Isooctane	(0.15 w/w %)
n-Hexadecane	(0.15 w/w %)		

Total Petroleum Hydrocarbon Concentrate Mix

M-8440-CON — **1 x 1 mL**
M-8440-CON-PAK — *SAVE 20%* — **5 x 1 mL**
3 comps.

Chlorobenzene	(25.0 vol %)	Isooctane	(37.5 vol %)
n-Hexadecane	(37.5 vol %)		

Silica Gel Cleanup Calibration Solution

M-8440-SGC — **1 x 1 mL**
M-8440-SGC-PAK — *SAVE 20%* — **5 x 1 mL**
10.0 mg/mL in Tetrachloroethene

Corn Oil

Tens of thousands of Standards Ready-to-Ship

IC-ACET-10X-1:12
IC-ACET-10X-5:12
IC-ACET-1X-1:12
IC-ACET-1X-5:12
IC-AN-10X-1-SET:12
IC-AN-10X-5-SET:12
IC-AN-1X-1-SET:12
IC-AN-1X-5-SET:12
IC-AN-2X-1-SET:12
IC-AN-2X-5-SET:12
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IC-ELU-02-1-PAK:14
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IC-FORM-10X-1:12
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IC-FORM-1X-1:12
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IC-GLYC-10X-1:12
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IC-LACT-10X-1:12
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IC-MAN-07-R1-1:13
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IC-MAN-09-R1-1:13
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IC-MAN-11-1:14
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IC-MAN-15-R2-1:14
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IC-NO3-2X-5:12
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IC-NO3-N-10X-5:13
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WC-TOX-10X:18
WC-TOX-10X-PAK:18
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