

## Method Summary

### Determination of Anions by Suppressed Ion Chromatography

**Governing SOP:** ME-4A

**Analyte:** Chloride, Bromide, Nitrite, Nitrate,  
Phosphate, Sulfate, Fluoride, Chlorites,  
Chlorate, Bromate, and Oxalate

**Range:** ppm

<b>Instrument</b>	<b>Dionex Model DX500 Chromatograph</b>
<b>Column</b>	Dionex IonPac AS9-SC 4 x 250m
<b>Eluent</b>	2.4 mM Na <sub>2</sub> CO <sub>3</sub> : 1.8 mM NaHCO <sub>3</sub>
<b>Preparation</b>	Aqueous samples may be analyzed as is. Water-soluble samples are typically transferred by weight to a known volume. Other solid materials that are not water-soluble may be extracted to determine extractable quantities of various anions or combusted to determine total quantities of an element such as Cl or Br.
<b>Calibration</b>	Standards to bracket sample concentration. 0.2 mg/L – 4.0 mg/L
<b>Sample Intro</b>	Auto injection (Hitachi Model AS7200)
<b>Determination</b>	Conductivity detection/linear regression
<b>Quantitation Limit</b>	Typically 0.2 mg/L in solution
<b>Interferences</b>	Anions with similar retention times; overlapping peaks from major constituent anions.

## References

Sawicki, et.al., *Ion Chromatographic Analysis*, Ann Arbor Science, 1978, p. 149-67.

EPA Method 300.0-1, *Determination of Inorganic Anions in Water by Ion Chromatography*

ASTM D4327, *Test Methods for Anions in Water by Chemically-Suppressed Ion Chromatography*.