

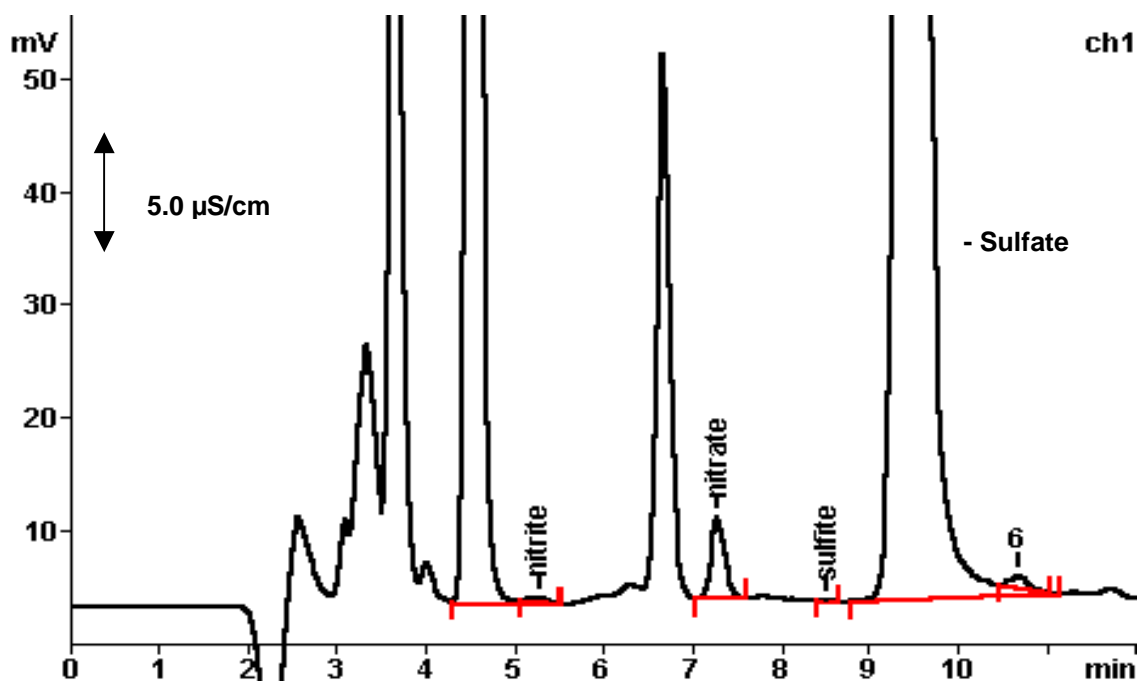
# IC Application Note No. S-133

**Title:** Determination of different anions in waste water after inline removal of excess chloride

**Summary:** Determination of nitrite, nitrate, sulfite and sulfate in waste water containing high levels of chloride using anion chromatography with conductivity detection after chemical suppression and after inline chloride removal.

**Sample:** Waste water with 3.3% chloride  
**Sample Preparation:** In line removal of chloride using an IC-Ag and subsequently an IC-H cartridge.

**Column:** 6.1006.520 Metrosep A SUPP 5-150  
**Eluent:** 1.5 mmol/L sodium hydrogencarbonate, 5.0 mmol/L sodium carbonate, 10% acetone  
**Suppressor:** MSM (50 mmol/L H<sub>2</sub>SO<sub>4</sub>)  
**Flow:** 0.5 mL/min  
**Injection Volume:** 10 µL through IC-Ag and IC-H cartridges (see next page)



<b>Results:</b>	Nitrite mg/L	Nitrate mg/L	Sulfite mg/L	Sulfate mg/L
	1.80	27.07	0.21	1118

## Setup of the Inline sample preparation.

10  $\mu\text{L}$  of the sample are injected into the transfer solution (degassed ultra pure water), which pushes the sample segment through the silver and cation exchanger cartridges to remove excess chloride. The remaining ions are retained on a preconcentration column (6.1006.500 A SUPP 4/5 Guard) mounted on the injector instead of the sample loop.

Due to the fact that only 10  $\mu\text{L}$  of the sample is transferred through the cartridges they may be used for 10 or more injections depending on the chloride content of the samples.

Schematics of the setup:

