

IC Application Note No. S-66

Title: Trace anions in boric acid using pre-concentration

Summary: Determination of fluoride, chloride, nitrate, phosphate and sulfate in boric acid with sample pre-concentration using anion chromatography with conductivity detection after chemical suppression.

Sample: Boric acid 2%

Sample Preparation: Preconcentration on cartridge: 2 mL boric acid, 1 mL ultrapure water for rinsing

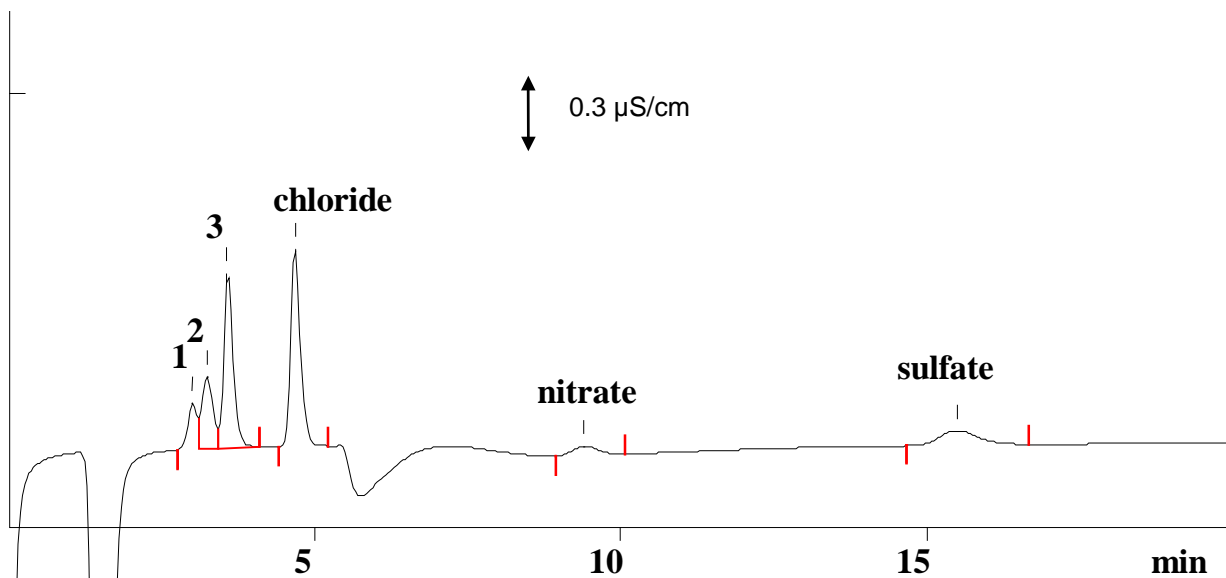
Column: 6.1006.100 Metrosep Anion Dual 2

Eluent: 4.3 mmol/L sodium hydrogencarbonate, 1.0 mmol/L sodium carbonate

Suppressor: Metrohm Suppressor Module (MSM, 50 mmol/L H₂SO₄)

Flow: 0.8 mL/min

Injection Volume: 2 mL after pre-concentration



Results:

	F ⁻ µg/L	Cl ⁻ µg/L	NO ₃ ⁻ µg/L	HPO ₄ ²⁻ µg/L	SO ₄ ²⁻ µg/L
	< 1 **	19.1	2.8	< 1	5.6

**) Peaks 1, 2 and 3 are unidentified organic acid anions, a standard addition of 1 µg/L F⁻ can be seen just before peak no. 1.