

# IC Application Note No. S-284

**Title:** Anions in etching baths

**Summary:** Determination of fluoride, acetate, nitrate, sulfate, silicate and hexafluorosilicate (calculated) in an etching bath using anion chromatography with conductivity detection after sequential suppression and subsequent UV/VIS detection with post-column reaction (see AN U-50). Hexafluorosilicate is hydrolyzed into fluoride and silicate. The measured fluoride concentration is the sum of free and released fluoride.

**Sample:** Standard solution

**Sample Preparation:** Dilution 1:5000 with ultrapure water

**Column:** 6.1030.430 Metrosep A Supp 15 – 250

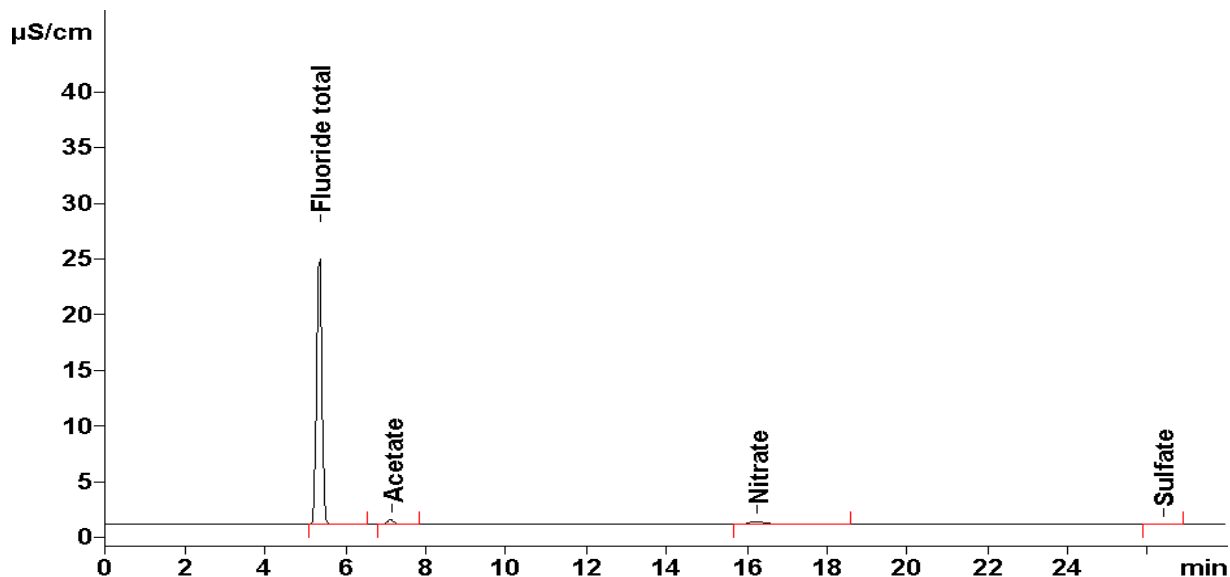
**Temperature:** 45 °C

**Eluent:** 3.5 mmol/L sodium carbonate  
3.0 mmol/L sodium hydrogen carbonate

**Suppressor:** Sequential suppression (MSM: 50 mmol/L H<sub>2</sub>SO<sub>4</sub>)

**Flow:** 0.7 mL/min

**Injection Volume:** 1.5 µL



<b>Results:</b>	Fluoride (total) g/L	Fluoride (free) g/L	Acetate g/L	Nitrate g/L	Sulfate
	373.2	248.5	55.92	74.9	n.d.

See AN U-50 for silicate determination.