

IC Application Note No. U-48

Title: Silicate and hexafluorosilicate

Summary: Determination of silicate and hexafluorosilicate (calculated) using anion chromatography with conductivity detection after chemical suppression (see AN S-277) and subsequent UV/VIS detection with post-column reaction. Hexafluorosilicate is hydrolyzed into fluoride and silicate. Both anion concentrations may be used for the calculation of the SiF_6^{2-} concentration.

Sample: Standard solution

Sample Preparation: –

Column: 6.1006.630 Metrosep A Supp 7 – 250

Temperature: 45 °C

Wavelength: 410 nm

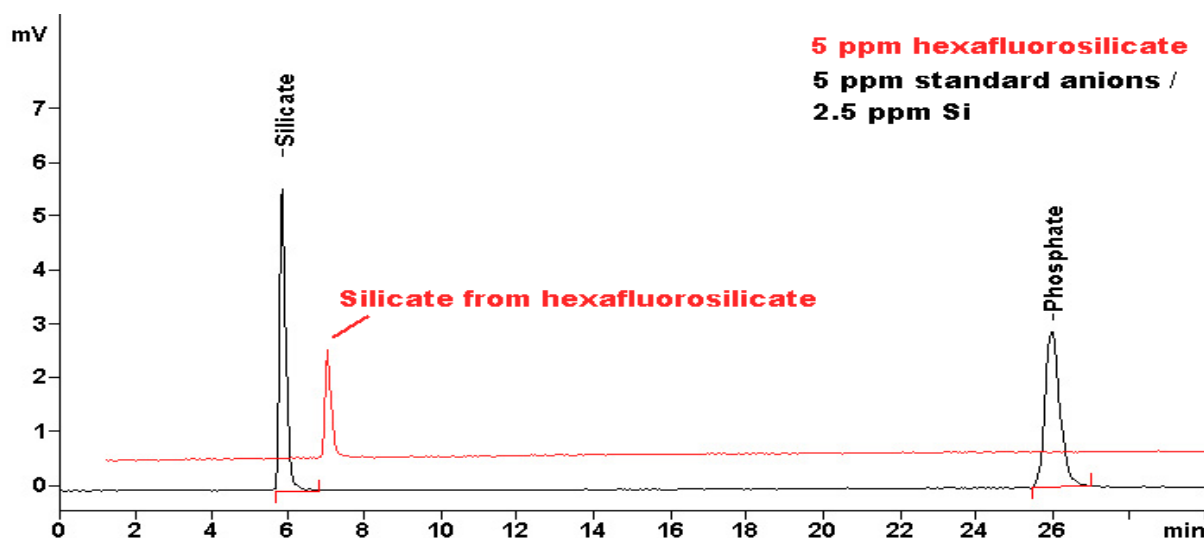
Eluent: 3.6 mmol/L sodium carbonate

Suppressor: Metrohm Suppressor Module MSM (50 mmol/L H_2SO_4)

Flow: 0.7 mL/min **PCR Flow:** 0.25 mL/min

PCR reagent: 20 mmol/L sodium molybdate in 200 mmol/L nitric acid

Injection Volume: 20 μL



Results:	Silicate mg/L	Phosphate mg/L
Standard anions	2.5	5.0
Hexafluorosilicate (5 mg/L)	0.89	–

See AN S-277 for standard anions with conductivity detection.