

# IC Application Note No. S-181

**Title:** Trace determination of chloride in quaternary ammonium hydroxide using inline cation exchange

**Summary:** Determination of traces of chloride in a quaternary ammonium hydroxide using anion chromatography with conductivity detection after chemical suppression and inline cation exchange to remove the matrix cations.

**Sample:** Quaternary ammonium hydroxide solution

**Sample Preparation:** Inline cation exchange of 200  $\mu\text{L}$  sample, subsequent collection of the anions on a preconcentration column and injection

**Column:** 6.1006.520 Metrosep A Supp 5 – 150  
6.1006.310 Metrosep A PCC 1 HC

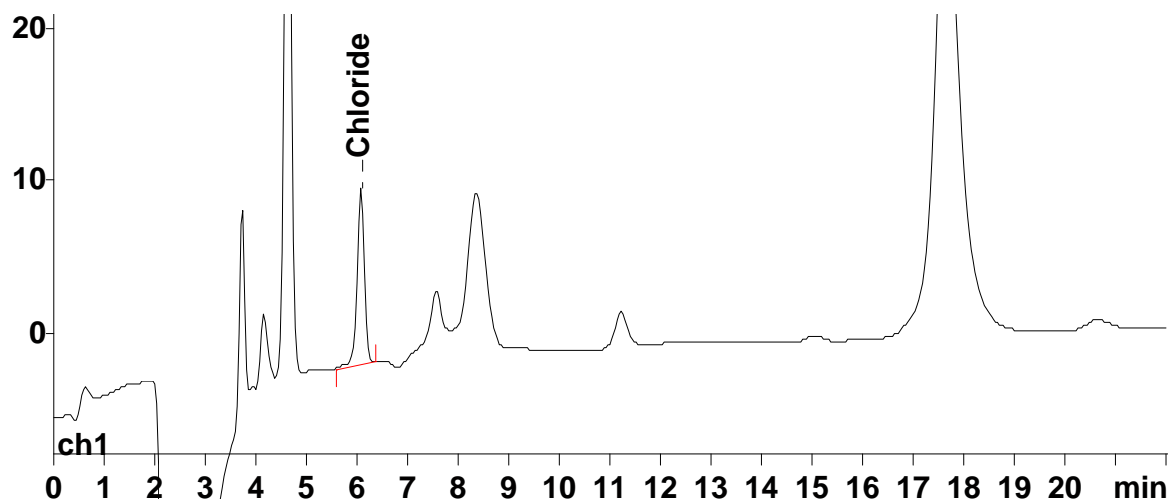
**Eluent:** 2.8 mmol/L sodium carbonate  
0.5 mmol/L sodium hydrogen carbonate

**Suppressor:** Metrohm Suppressor Module (MSM, 50 mmol/L  $\text{H}_2\text{SO}_4$ )

**MISP:** Metrohm Sample Prep Module (0.5 mmol/L  $\text{H}_2\text{SO}_4$ , 10% acetone)

**Flow:** 0.7 mL/min

**Injection Volume:** 200  $\mu\text{L}$



**Results:**

Chloride  
 $\mu\text{g/L}$

5.19