

# IC Application Note No. S-178

**Title:** Five anions in lignin

**Summary:** Determination of chloride, sulfite, sulfate, oxalate and thiosulfate in lignin using anion chromatography with conductivity detection after chemical suppression.

**Sample:** Lignin samples

**Sample Preparation:** 50 mg dissolved in 100 mL 10 mmol/L NaOH (with 36.5 ppm formaldehyde), injection after inline ultrafiltration

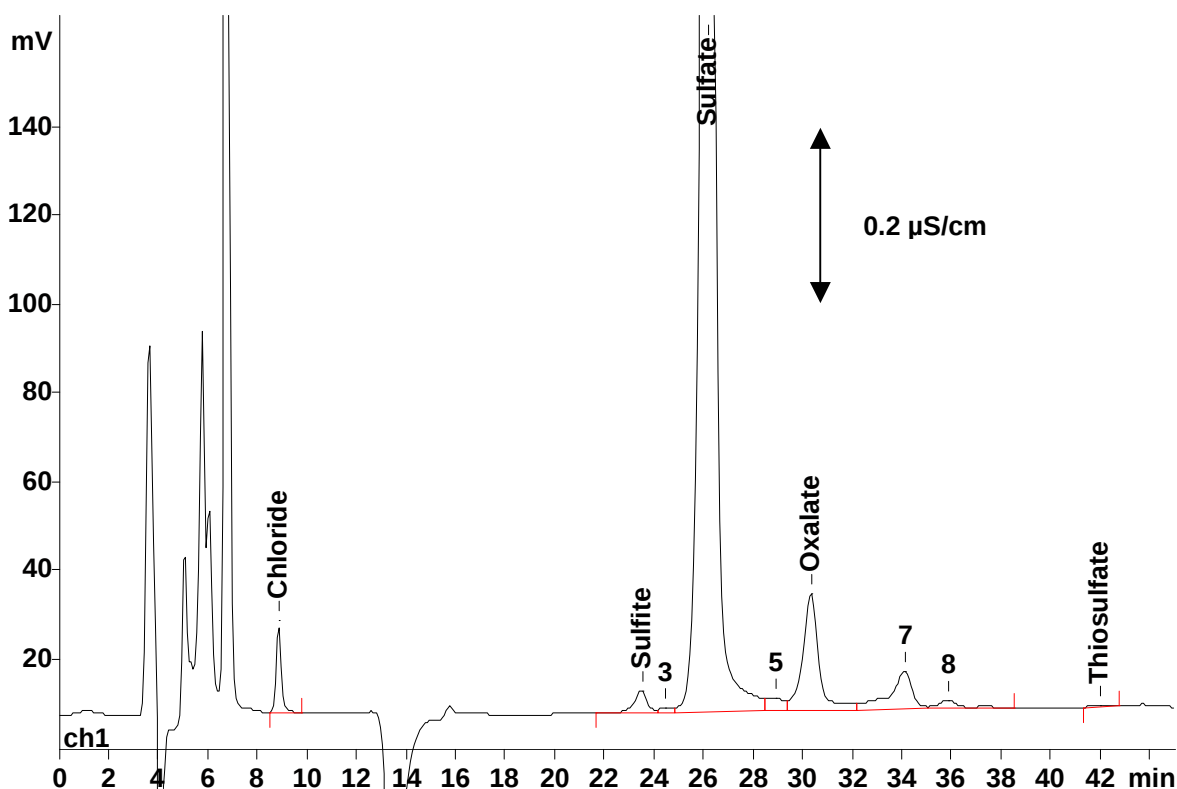
**Column:** 6.1006.530 Metrosep A Supp 5 – 250

**Eluent:** 3.2 mmol/L sodium carbonate  
1.0 mmol/L sodium hydrogen carbonate, 5% acetone

**Suppressor:** Metrohm Suppressor Module (MSM, 50 mmol/L H<sub>2</sub>SO<sub>4</sub>)

**Flow:** 0.7 mL/min

**Injection Volume:** 20 µL



| <b>Results:</b>        | Chloride<br>mg/L | Sulfite<br>mg/L | Sulfate<br>mg/L | Oxalate<br>mg/L | Thiosulfate<br>mg/L |
|------------------------|------------------|-----------------|-----------------|-----------------|---------------------|
| in the sample solution | 0.079            | 0.246           | 9.770           | 0.988           | 0.007               |