

# IC Application Note No. S-248

**Title:** Chloride and sulfur species in pulp mill effluent by simultaneous conductivity and UV detection

**Summary:** Determination of chloride, sulfite, sulfate and thiosulfate in a process water using anion chromatography with conductivity detection after chemical suppression and subsequent UV/VIS detection.

**Sample:** Process water of paper industry

**Sample Preparation:** Dilution 1 : 500 with ultrapure water, injection through 0.45 µm filter

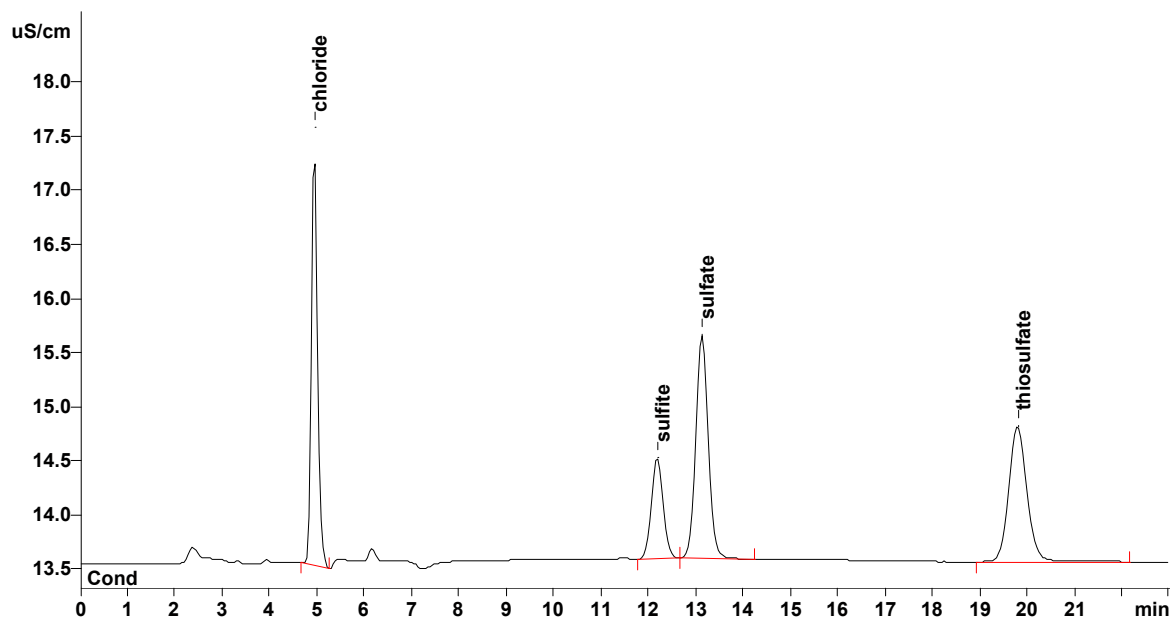
**Column:** 6.1006.520 Metrosep A Supp 5 – 150

**Eluent:** 3.2 mmol/L sodium carbonate  
1.0 mmol/L sodium hydrogen carbonate  
2.5% 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	Sulfite	Sulfate	Thiosulfate
Sample (g/L)	<b>1.56</b>	<b>22.5</b>	<b>2.38</b>	<b>2.43</b>
RSD n=3 (%)	<b>0.70</b>	<b>1.59</b>	<b>1.92</b>	<b>1.68</b>

See Application Note U-31 for the UV/VIS results obtained with the same sample.