

IC Application Note No. S-251

Title: Trace anions in concentrated phosphoric acid applying two-dimensional ion chromatography

Summary: Determination of chloride, nitrate and sulfate in 85% H₃PO₄ using two-dimensional anion chromatography with conductivity detection after sequential suppression.

Sample: Phosphoric acid (85%)

Sample Preparation: Preseparation of the anions applying ion exclusion. The strong acid anions are cut onto the anion column while the main fraction of the phosphoric acid goes to waste.

Column: (presep.) 6.1005.200 Metrosep Organic Acids 250

Eluent: (presep.) Ultrapure water

Flow: 0.5 mL/min

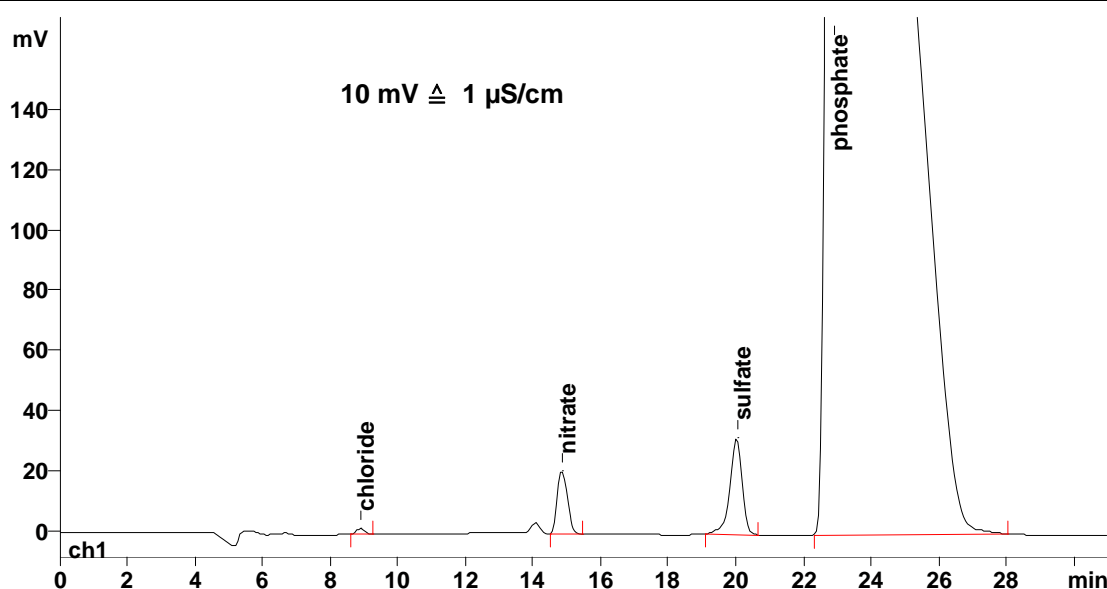
Column: 6.1006.530 Metrosep A Supp 5 – 250

Eluent: 2.8 mmol/L sodium carbonate
5.0 mmol/L sodium hydroxide

Suppressor: Sequential suppression: MSM (100 mmol/L H₂SO₄), MCS

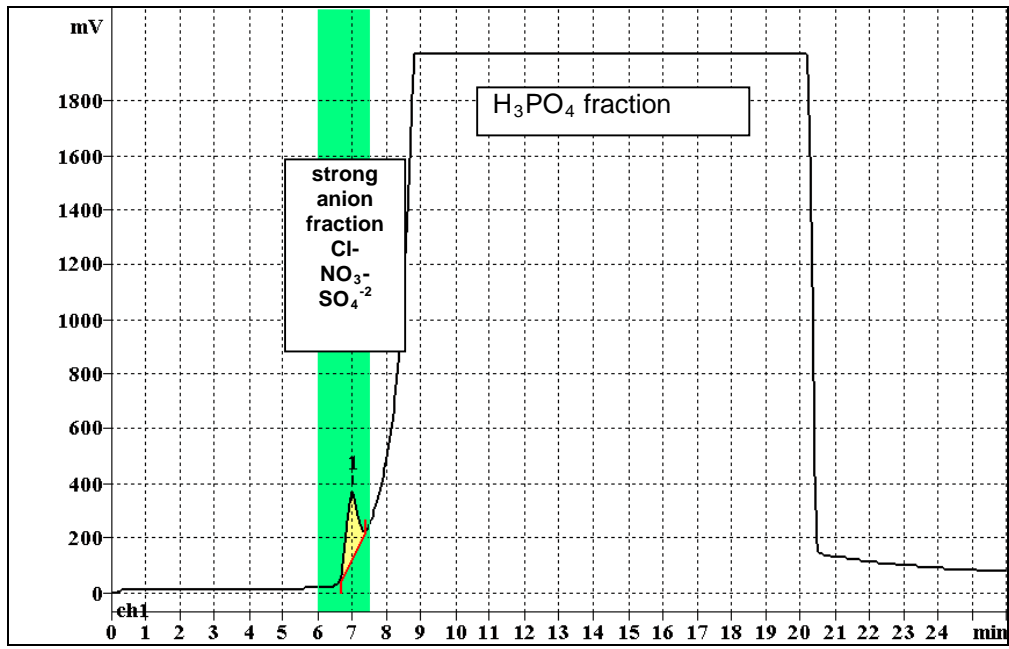
Flow: 0.7 mL/min

Injection Volume: 200 µL



Results:	Chloride µg/L	Nitrate µg/L	Sulfate µg/L	Phosphate
	26.8	n.q.	815	n.q.

Preseparation:



System setup:

