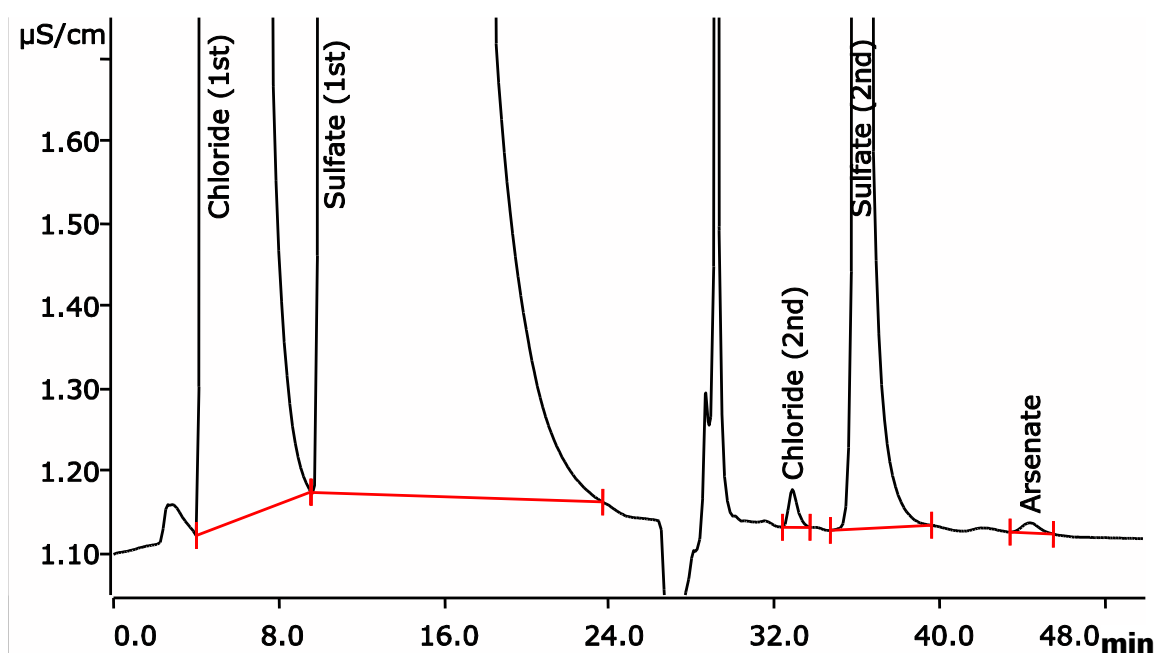


Arsenate in high-chloride and high-sulfate matrix by sample reinjection technique



The anion column Metrosep A Supp 15 - 150/4.0 is a pretty high-capacity column. The direct determination of arsenate in a matrix of 180 mg/L chloride and 320 mg/L sulfate is not possible, as the arsenate is hardly detectable under the sulfate peak tail. Sample reinjection cuts-off the majority of the matrix and therefore allows an accurate determination of the arsenate.

Reinjection: The arsenate is preconcentrated on a preconcentration column after the first separation and sequential suppression (18...24 min). Subsequently the preconcentration column is eluted onto the same analytical column again.

Results

Anion	[$\mu\text{g/L}$]
Arsenate (reinjection)	50

Method description

Sample

Aqueous standard solutions containing 180 mg/L chloride and 320 mg/L sulfate.

Sample preparation

Sample reinjection

Column

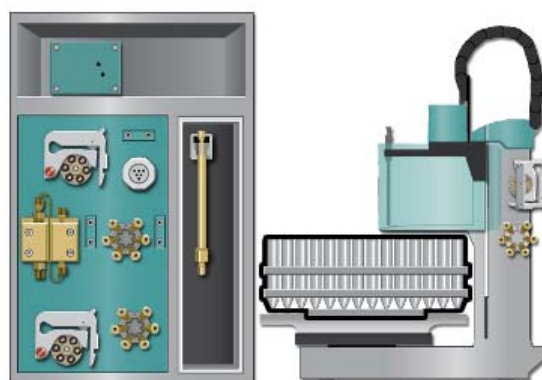
Metrosep A Supp 15 - 150/4.0	6.1030.420
Metrosep A Supp 15 Guard/4.0	6.1030.500

Solutions

Eluent	5.0 mmol/L sodium carbonate 0.3 mmol/L sodium hydroxide
Regenerant	100 mmol/L sulfuric acid
Rinsing solution	Ultrapure water

Parameters

Flow rate	0.8 mL/min
Injection volume	200 µL
P _{max}	15.0 MPa
Recording time	50 min
Column temperature	45 °C



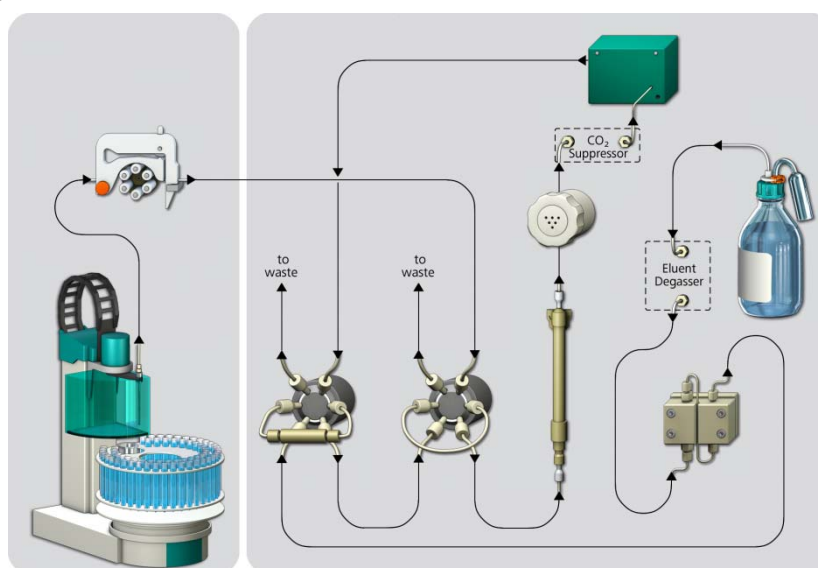
Analysis

Sequential suppression

Instrumentation

850 Professional IC Anion – MSM-HC – MCS – Prep 2	2.850.2140
858 Professional Sample Processor – Pump	2.858.0020

System setup



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