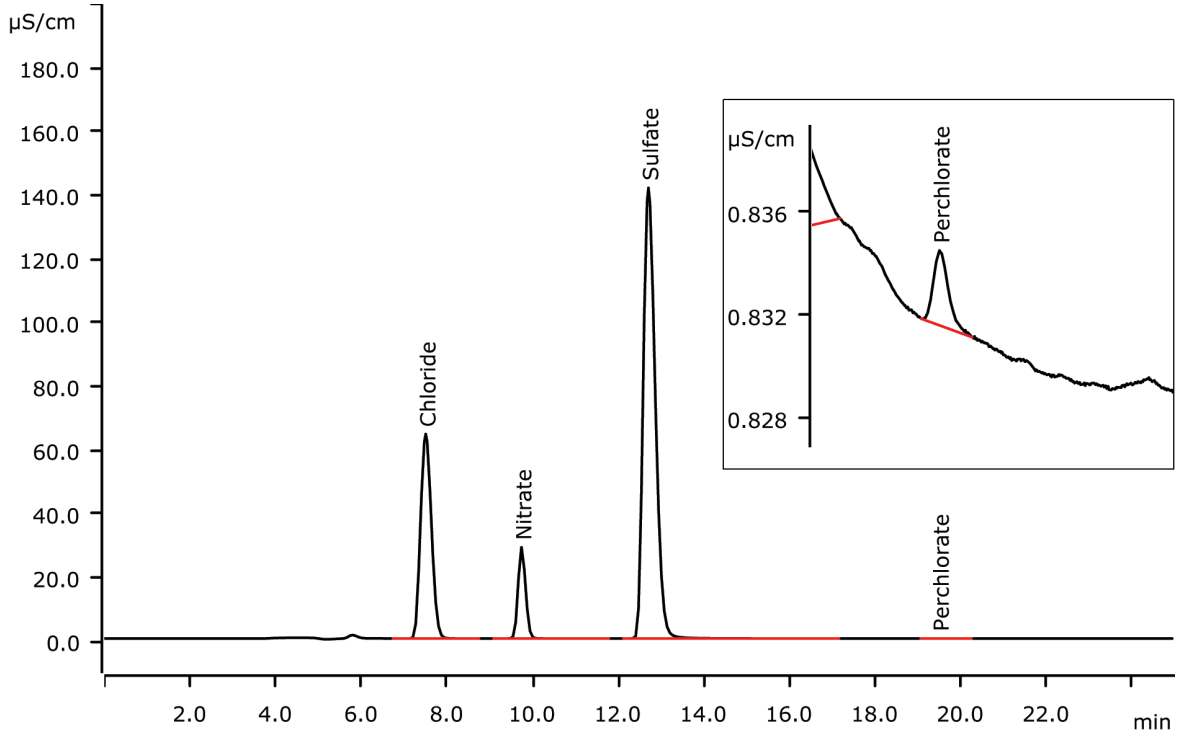
IC Application Note S–324

Traces of perchlorate in drinking water



Perchlorate is known as a potential contaminant in drinking water. Besides very few natural sources it mainly originates from disinfectants, bleaching, propellants etc. The determination of perchlorate in drinking water is determined after separation on a Metrosep A Supp 7 - 250/4.0 and sequential suppression by conductivity detection.

Results

Anion	Concentration [µg/L]	Recovery [%]
Chloride	n.q.	-
Nitrate	n.q.	-
Sulfate	n.q.	-
Perchlorate (spiked)	2.01	100.5

Metrohm

Sample

Drinking water

Sample preparation

None

Columns

Metrosep A Supp 7 - 250/4.0	6.1006.630
Metrosep A Supp 4/5 Guard/4.0	6.1006.500

Solutions

Eluent	10 mmol/L sodium carbonate 35% acetonitrile
Suppressor regenerant	100 mmol/L sulfuric acid
Rinsing solution	STREAM

Analysis

Conductivity detection after sequential suppression

Instrumentation

940 Professional IC Vario ONE/SeS/PP	2.940.1500
IC Conductivity Detector	2.850.9010
858 Professional Sample Processor	2.858.0020
MSM-HC Rotor A	6.2842.000

Parameters

Flow rate	0.7 mL/min
Injection volume	250 µL
P_{max}	15 MPa
Recording time	25 min
Column temperature	45 °C