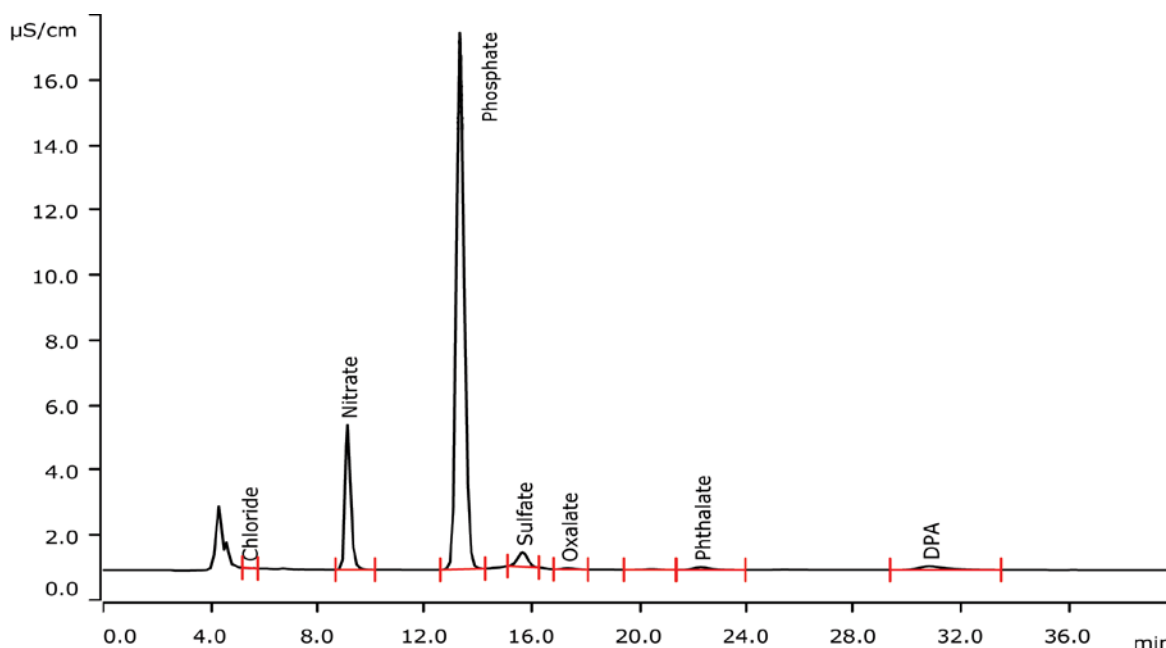


Anions in 70% hydrogen peroxide applying Inline Matrix Elimination



Hydrogen peroxide is used as cleaning, oxidizing and bleaching medium. Depending on its purity, it may contain inorganic anions as well as organic acid anions, such as oxalate, phthalate, and dipicolinic acid. Dipicolinic acid is a complexing agent that binds transition metal cations and is sometimes added to increase the stability of hydrogen peroxide.

Results

	Concentration [mg/L]		Concentration [mg/L]
Chloride	< 0.05	Oxalate	0.35
Nitrate	45.0*	Phthalate	6.20
Phosphate	360.0*	DPA	14.0
Sulfate	8.0*		

DPA: anion of dipicolinic acid

* out of calibration, quantified after dilution

Sample

Hydrogen peroxide 70%

Sample preparation

Inline Matrix Elimination

Columns

Metrosep A Supp 5 - 150/4.0	6.1006.520
Metrosep A Supp 4/5 Guard/4.0	6.1006.500
Metrosep A PCC 1 /4.0	6.1006.300

Solutions

Eluent	3.2 mmol/L sodium carbonate 1.0 mmol/L sodium hydrogen carbonate
Suppressor regenerant	100 mmol/L sulfuric acid
Rinsing solution	STREAM

Parameters

Flow rate	0.7 mL/min
Injection volume	20 µL
P _{max}	15 MPa
Recording time	40 min
Column temperature	35 °C

Analysis

Conductivity after sequential suppression

Instrumentation

940 Professional IC Vario ONE/SeS/PP	2.940.1500
IC Conductivity Detector	2.850.9010
858 Professional Sample Processor	2.858.0010
2 × 800 Dosino	2.800.0010
Dosing Unit 2 mL	6.3032.120
Dosing Unit 5 mL	6.3032.150
MSM Rotor A	6.2832.000
Adapter sleeve for Suppressor Vario	6.2842.020

