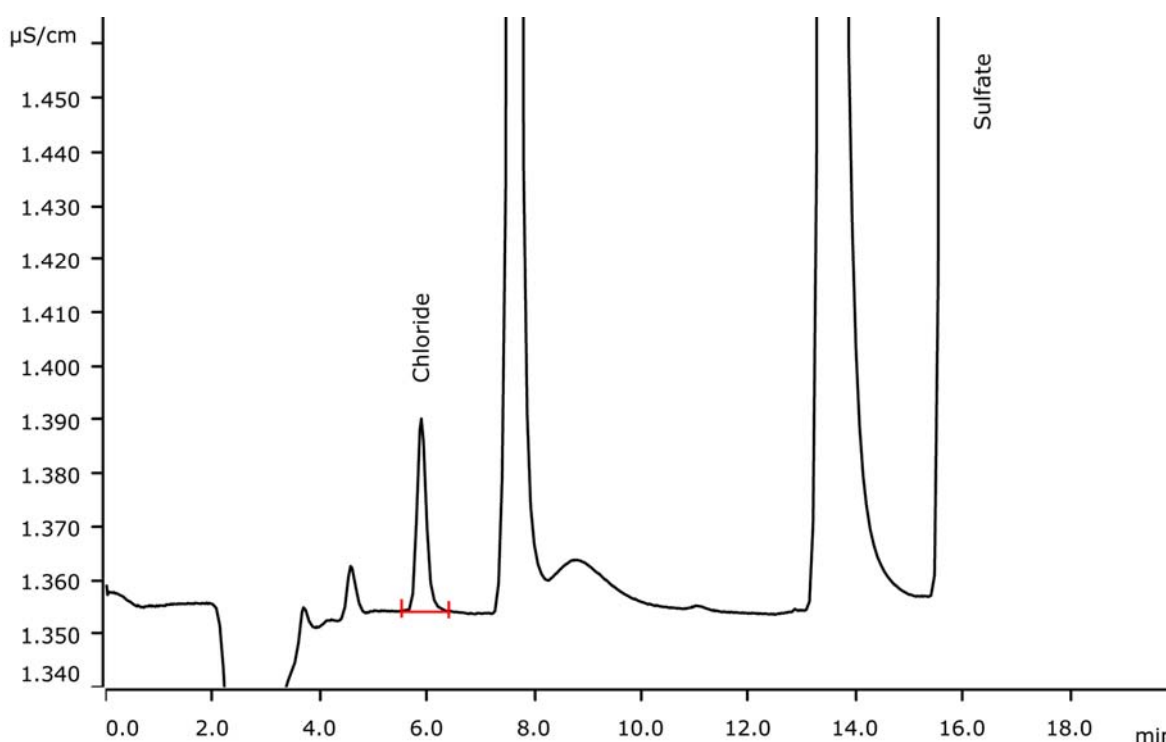


Trace chloride in wax fraction of crude oil distillation applying Metrohm Combustion IC



The wax fraction from crude oil distillation is a source of paraffin wax and lubricating oils. These products require low chloride content. Here, the trace chloride determination after inline combustion is presented. Although the sulfur content was of no interest in this application, the same setup allows sulfur quantification.

Results

	Mean [mg/kg] (n = 3)	RSD [%] (n = 3)
Chlorine	0.57	9.8
Sulfur	n.q.	

Sample

Crude oil distillate

Sample preparation

The sample is analyzed by Combustion IC with flame sensor technology and intelligent Partial Loop Injection Technique with Inline Matrix Elimination.

Columns

Metrosep A Supp 16 - 150/4.0	6.1031.430
Metrosep A Supp 16 Guard/4.0	6.1031.500
Metrosep A PCC 1 HC/4.0	6.1006.310

Solutions

Eluent	7.5 mmol/L sodium carbonate 0.75 mmol/L sodium hydroxide
Suppressor regenerant	100 mmol/L sulfuric acid
Rinsing solution	STREAM
Absorber solution	100 mg/L hydrogen peroxide

Parameters

Flow rate	0.8 mL/min
Injection volume (IC)	100 µL (MiPT)
P _{max}	20 MPa
Recording time	20 min
Column temperature	45 °C

Combustion parameters

Argon	100 mL/min
Oxygen	300 mL/min
Oven temperature	1050 °C
Post-combustion time	120 s
Initial volume of absorption solution	2.0 mL
Water inlet	0.1 mL/min

Analysis

Conductivity after sequential suppression

Instrumentation

930 Compact IC Flex Oven/SeS/PP/Deg	2.930.2560*
IC Conductivity Detector	2.850.9010*
MSM Rotor A	6.2832.000*
Adapter sleeve for Suppressor Vario	6.2842.020*
920 Absorber Module	2.920.0010*
Combustion Module (oven and ABD)	2.136.0700*
Autosampler MMS 5000	6.7304.030
Kit for solid sampling	6.7302.000

* available as 930 Metrohm Combustion IC (2.930.9010)

