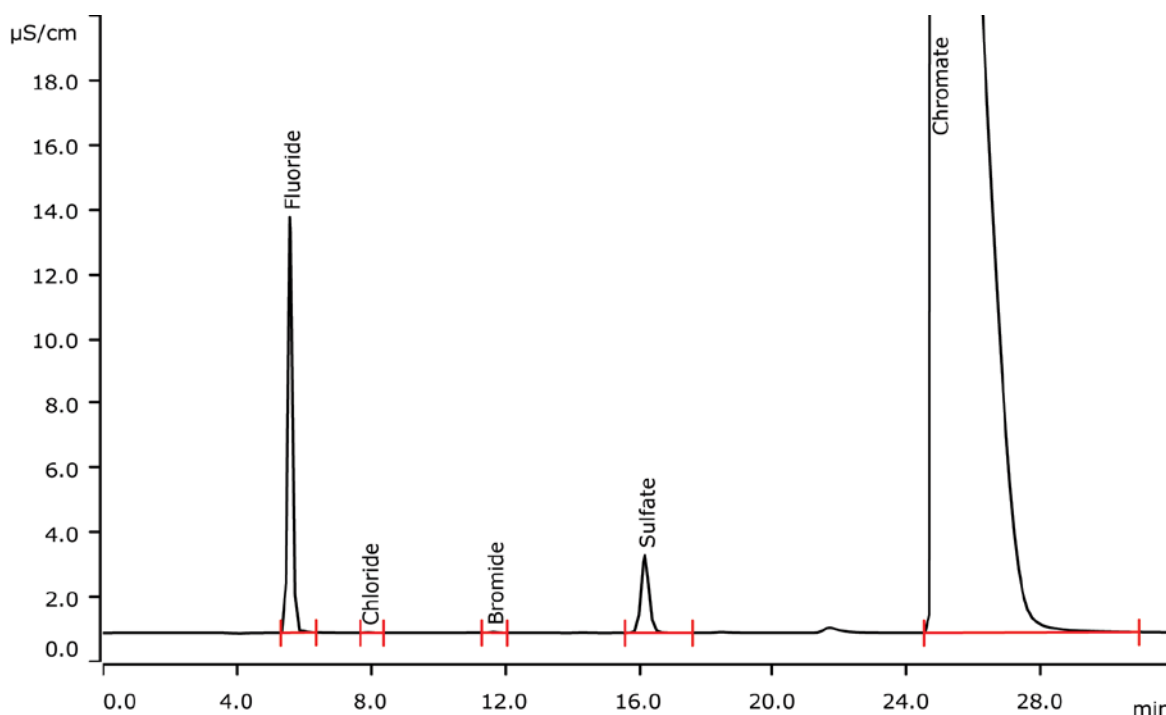


Sulfate besides chromate in bright chrome plating baths



Chrome plating is a technique of electroplating, bringing a thin layer of chromium onto metal surface. This is performed for optical and/or chemical effects. The sulfate or sulfuric acid concentration is an important parameter in the plating process and needs to be analyzed. The anions of the chrome bath are separated on a Metrosep A Supp 5 - 250/4.0 column followed by conductivity detection after sequential suppression.

Results

Anion	Concentration [g/L]	RSD [%] n = 3	Recovery [%]
Fluoride	1.998	-	-
Chloride	0.138	-	-
Bromide	0.204	-	-
Sulfate	1.754	0.06	99
Chromate	n.q.	-	-

Sample

Bright chrome electrolyte bath

Sample preparation

Dilution 1 : 500

Columns

Metrosep A Supp 5 - 250/4.0	6.1006.530
Metrosep A Supp 4/5 Guard/4.0	6.1006.500

Solutions

Eluent	5.0 mmol/L <u>sodium carbonate</u> 1.0 mmol/L <u>sodium hydrogen carbonate</u>
Suppressor regenerant	100 mmol/L sulfuric acid
Rinsing solution	STREAM

Analysis

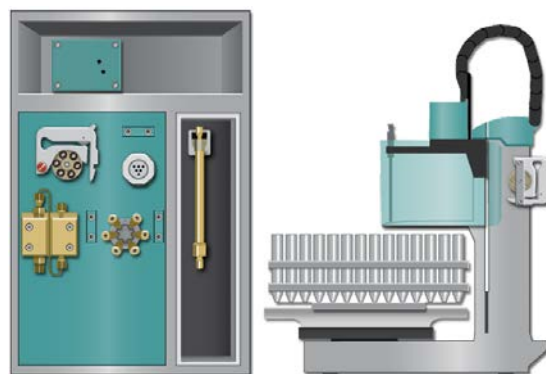
Conductivity detection after sequential suppression

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 Rotor A	6.2832.000

Parameters

Flow rate	0.7 mL/min
Injection volume	20 µL
P _{max}	15 MPa
Recording time	32 min
Column temperature	30 °C



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