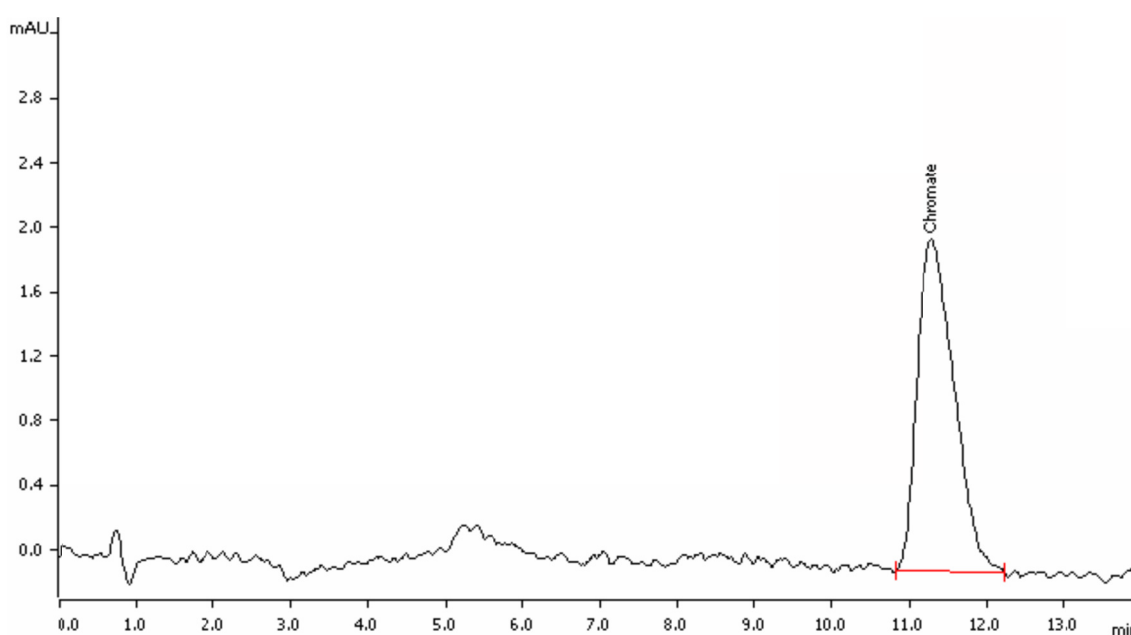


Chromate with 887 Professional UV/VIS Detector and 886 Professional Thermostat / Reactor



Chromate (Cr(VI)) or hexavalent chromium is carcinogenic. Its use is restricted. Chromate has to be analyzed in a large range of products starting with drinking water, wastewater (e.g. from leather production) over toys to RoHS-regulated substances. Besides ion chromatographic determination applying conductivity detection, the method described here is suitable especially for lower concentrations.

Results

Drinking water spiked

Chromate

Spike: 0.60 µg/L

0.74 µg/L

Method description

Sample

Drinking water

Sample preparation

Direct injection

Column

Metrosep A Supp 5 - 100/4.0	6.1006.510
Metrosep A Supp 4/5 Guard/4.0	6.1006.500
Metrosep BP 1 Guard/2.0	6.1015.000

Solutions

Eluent	12.8 mmol/L sodium carbonate 4.0 mmol/L sodium hydrogen carbonate
Post-column reagent	2.0 mmol/L 1,5-diphenylcarbazide

Analysis

UV detection	538 nm
Reference	650 nm

Parameters

Flow rate column	0.4 mL/min
Flow rate PCR	0.2 mL/min
Injection volume	1000 µL
P _{max}	20.0 MPa
Recording time	14 min
Column temperature	45 °C
PCR temperature	45 °C
Measuring duration	1000 ms

Instrumentation

850 Professional IC Cation – HP Gradient	2.850.1220
858 Professional Sample Processor	2.858.0020
887 Professional UV/VIS Detector	2.887.0010
886 Professional Reactor	2.886.0110

Calibration curve

Standard Number	Concentration [µg/L]
1	0.1
2	0.5
3	1.0
4	1.5
5	2.5
6	5.0
7	10.0
8	15.0
9	20.0
10	25.0
11	50.0

