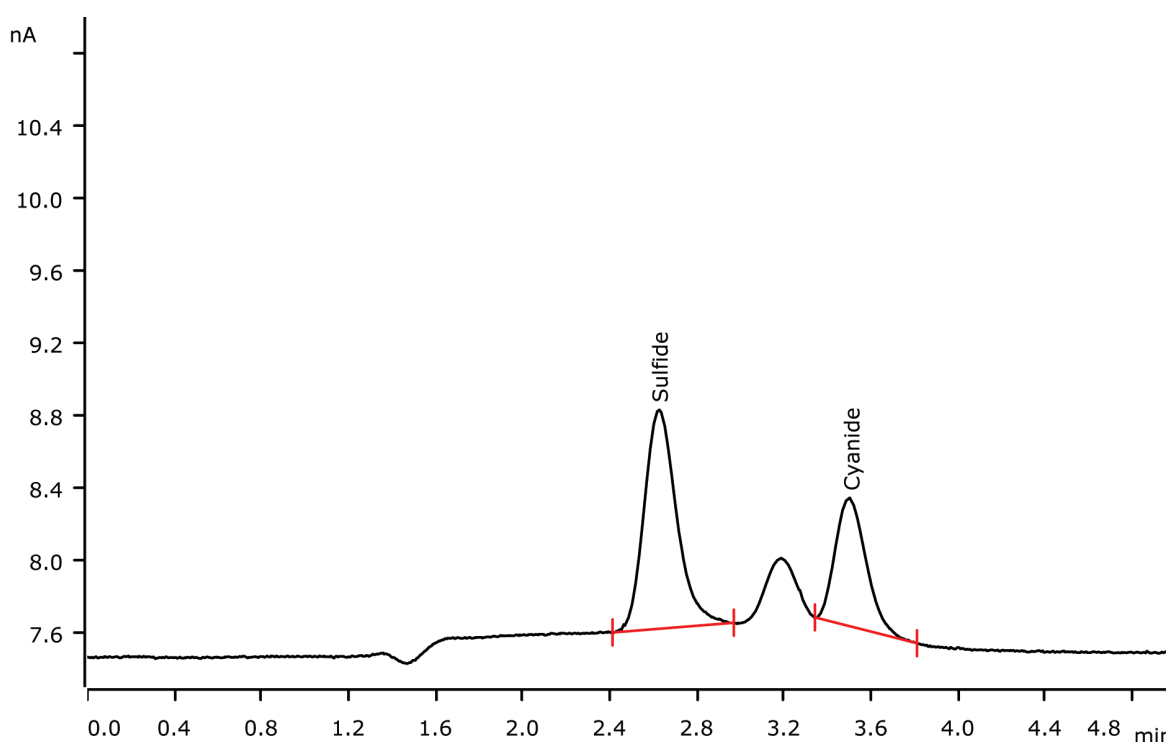


Cyanide and sulfide on Metrosep A Supp 10 - 100/2.0 using amperometric detection



Trace determination of cyanide and sulfide require an alkaline eluent and amperometric detection. This Application Note describes a new column/eluent combination for optimized separation. The combination consists of the microbore Metrosep A Supp 10 - 100/2.0 column and a sodium hydroxide eluent containing a trace of EDTA for transition metal complexation. This yields in better peak shape and detection limits below 0.05 µg/L.

Results

Compound	Concentration [µg/L]
Sulfide	0.5
Cyanide	0.5

Sample

Standard solution

Sample preparation

Direct injection

Columns

Metrosep A Supp 10 - 100/2.0	6.1020.210
Metrosep A Supp 10 Guard/2.0	6.1020.600

Solutions

Eluent	100 mmol/L sodium hydroxide 0.007 mmol/L EDTA
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Parameters

Flow rate	0.25 mL/min
Injection volume	20 µL
Recording time	5 min
Column temperature	35 °C

PAD Parameters

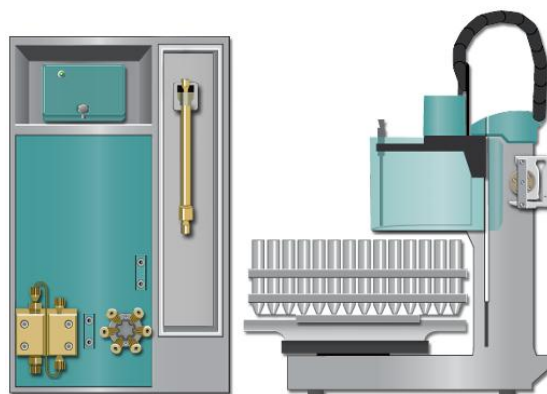
Cell	Wall-Jet cell
Working electrode	Silver
Reference electrode	Palladium
Spacer	25 µm
Measuring potential	0.0 V
Measuring range	Auto
Temperature	35 °C
Mode	DC
Measuring mode	Current

Analysis

Amperometric detection

Instrumentation

930 Compact IC Flex Oven/Deg	2.930.2160
IC Amperometric Detector	2.850.9110
858 Professional Sample Processor	2.858.0020
IC equipment Wall-Jet cell: Cyanide (Ag, Pd)	6.5337.020



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