Sulfur compounds

Trace analysis of sulfur compounds

Application Note

Energy & Fuels

Authors

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Introduction

The inertness of the PoraBOND Q column allows the separation of volatile sulfur compounds at low levels with an excellent peak shape. Together with the high sensitivity of the Pulsed Discharge Detector, linear quantification down to the sub-ppm level is possible under these conditions. Also water can be detected.

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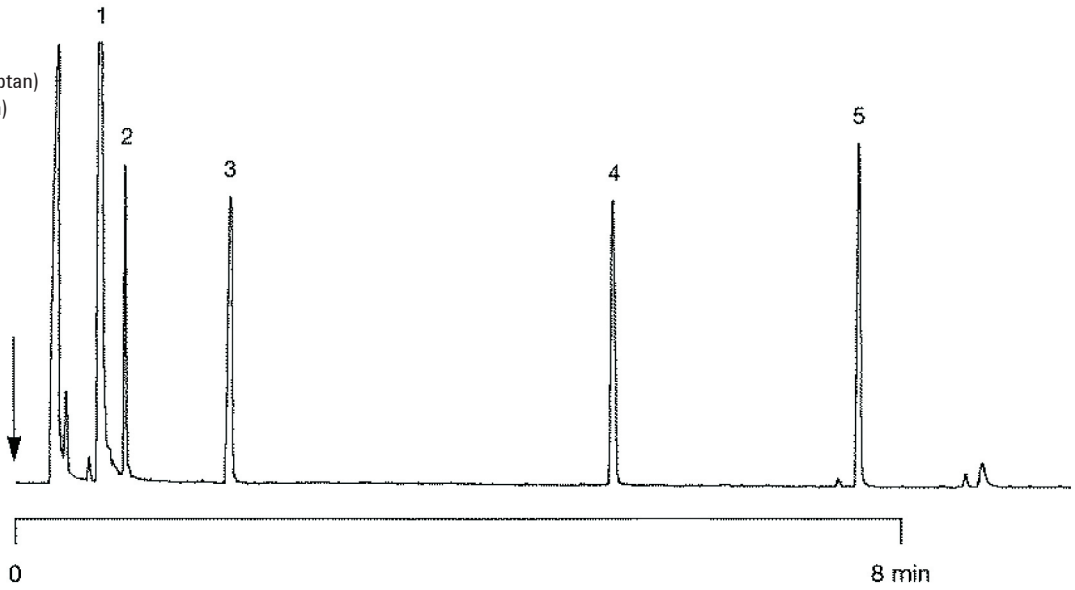
Conditions

Technique	:	GC-capillary
Column	:	Agilent PoraBOND Q, 0.32 mm x 15 m fused silica PLOT (df = 5 µm) (Part no. CP7351) (as 25 m column)
Temperature	:	35 °C (3 min) ⟶ 250 °C, 20 °C/min
Carrier Gas	:	He, 50 kPa (0.5 bar, 7.2 psi)
Injector	:	Valve/Split
Detector	:	VICI Pulsed Discharge Detector, T = 300 °C
Sample Size	:	100 µL
Concentration Range	:	100 ppm
Courtesy	:	Jim Luong, Analytical Sciences, Dow Western Canada Operations

Peak identification

1. water
2. hydrogen sulfide
3. carbonyl sulfide
4. methanethiol (methyl mercaptan)
5. ethanethiol (ethyl mercaptan)



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