



Sulfur gases and hydrocarbons, $C_1 - C_3$ Analysis of sulfur and hydrocarbons by GC-AED

Application Note

Energy & Fuels

Authors

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Introduction

COS and H₂S elute without interference from light hydrocarbons, making quantification possible with universal detection devices, and avoids quenching effects with selective detectors.



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Conditions

Technique : GC-capillary
Column : Agilent CP-SilicaPLOT, 0.32 mm x 30 m, fused silica
PLOT CP-SilicaPLOT (df = 4 µm) (Part no. CP8567)
Temperature : 40 °C (2 min) → 250 °C, 20 °C/min
Carrier Gas : He, 210 kPa (2.1 bar, 30 psi)
Injector : Split, 1:100
T = 200 °C
Detector : AED, Carbon channel, C 193;
Sulfur channel, S 181
T = 250 °C
Sample Size : 1.0 mL
Concentration Range : sulfur compounds: 50 ppm
hydrocarbons: 500 ppm

Courtesy : Jim Luong, The Dow Chemical Company, Canada

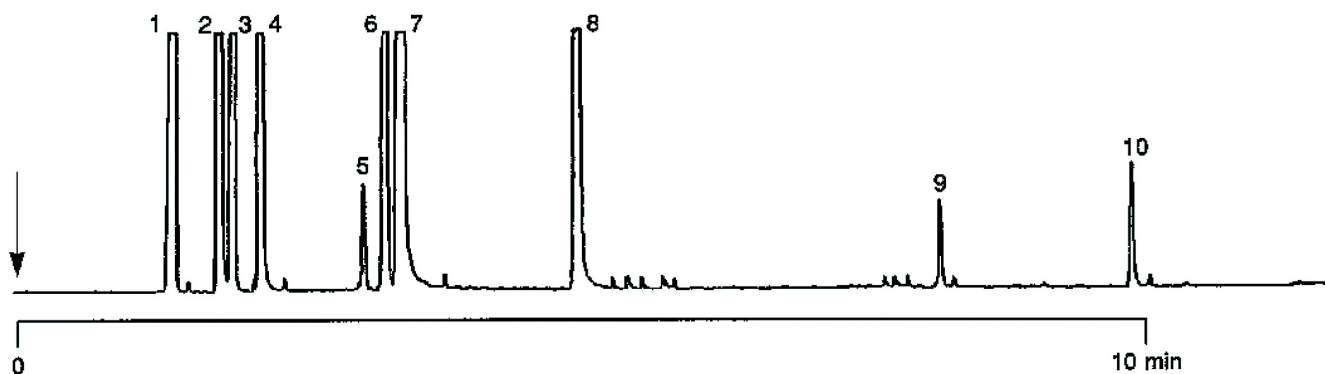
Peak identification

1. methane + carbon monoxide
2. ethane
3. carbon dioxide
4. ethylene
5. carbonyl sulfide (COS)
6. acetylene
7. propane
8. propylene
9. methanethiol (methyl mercaptan)
10. ethanethiol (ethyl mercaptan)
11. hydrogen sulfide (H₂S)

A. Sulfur channel



B. Carbon channel



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This information is subject to change without notice.

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