Sulfur compounds
Trace analysis of sulfur compounds

Application Note

Energy & Fuels

**Authors**
Agilent Technologies, Inc.

**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.
**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)