Oxygenated compounds in glycol
Analysis of impurities in glycol

Application Note

Materials Testing & Research

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Introduction
Impurities in monoethylene glycol are detected by GC/MS with an Agilent CP-Volamine column in six minutes.
Conditions

Technique: GC

Column: Agilent CP-Volamine, 0.32 mm x 30 m fused silica (optimized filmthickness) (Part no. CP7447)

Temperature: 40 °C (2 min) → 250 °C, 10 °C/min

Carrier Gas: Helium, 3 Psi, 35 cm/s

Injector: Split

Detector: MS

Sample Size: 0.5 μL

Concentration Range: 10 ppm level

Matrix: MEG, Synthetic standard, spiked with approx. 10 ppm oxygenated compounds

Courtesy: Jim Luong and Paige Spencer, Dow Chemical Canada

Peak identification

1. air
2. acetaldehyde
3. water
4. glycolaldehyde
5. monoethylene glycol (MEG)