Oxygenates
Separation of ethylene oxide and acetaldehyde

Application Note

Energy & Fuels

Authors
Agilent Technologies, Inc.

Introduction
Gas chromatography with an Agilent CP-SilicaPLOT column separates ethylene oxide from acetaldehyde in ten minutes.
**Conditions**

Technique: GC-capillary

Column: Agilent CP-SilicaPLOT, 0.32 mm x 30 m, used silica PLOT CP-SilicaPLOT (df = 4 μm) (Part no. CP8567)

Temperature: 100 °C (2 min) → 250 °C, 20 °C/min

Carrier Gas: H₂, 70 kPa (0.7 bar, 10 psi)

Injector: Split, 1:100
  T = 200 °C

Detector: FID
  T = 250 °C

Sample Size: 1.0 mL

Concentration Range: vinylchloride: 100 ppm;
ethylene oxide and acetaldehyde: trace

Courtesy: Jim Luong, The Dow Chemical Company, Canada

**Peak identification**

1. vinylchloride
2. ethylene oxide
3. acetaldehyde