Hydrocarbons, C$_1$ – C$_3$
Analysis of hydrocarbons C$_1$-C$_2$ and vinyl chloride in air

Application Note

Environmental

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Introduction
Gas chromatography using an Agilent CP-Al$_2$O$_3$/Na$_2$SO$_4$ column separates five C$_1$ to C$_3$ hydrocarbons and vinyl chloride in air in 14 minutes.
Conditions

Technique: GC-capillary

Column: Agilent CP-\(\text{Al}_2\text{O}_3/\text{Na}_2\text{SO}_4\), 0.53 mm x 50 m fused silica PLOT \(\text{Al}_2\text{O}_3/\text{Na}_2\text{SO}_4\) (df = 10 \(\mu\)m) (Part no. CP7568)

Temperature: 70 °C (2 min) → 200 °C, 10 °C/min

Carrier Gas: He, 100 kPa (1.0 bar, 14 psi), 30 cm/s

Injector: Splitter, 1:35
T = 240 °C

Detector: FID
T = 300 °C

Sample Size: 1 mL

Concentration Range: 100 ppm; except cyclopropane 50 ppm and vinyl chloride 15 ppm

Courtesy: Dow Chemical Canada, Western Canada Division, R & D Lab, Jim Luong and Steve Craik

Peak identification

1. methane
2. ethane
3. ethylene
4. propane
5. cyclopropane
6. propylene
7. acetylene
8. vinyl chloride