Halogenated hydrocarbons
Separation of halogenated hydrocarbons and \( C_2 \) hydrocarbons

Application Note

Environmental

Authors
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Introduction
The Agilent CP-SilicaPLOT separates all \( C_2 \) isomers with high resolution. Besides this, the column is highly selective and inert for halogenated compounds. Volatile compounds such as chloromethane, vinylchloride and chloroethane elute as sharp peaks, well separated from the \( C_2 \) isomers. Typical separations can be done at temperatures above ambient. Traces of water will not change retention time.
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) → 200 °C, 20 °C/min
Carrier Gas: N₂, 50 kPa (0.5 bar, 7 psi)
Injector: Split, 50 mL/min
Detector: FID
Sample Size: 1 mL
Concentration Range: % level
Sample Matrix: nitrogen

Peak identification

<table>
<thead>
<tr>
<th>Peak</th>
<th>Concentration (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. methane</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>2. ethane</td>
<td>980 ppm</td>
</tr>
<tr>
<td>3. ethylene</td>
<td>980 ppm</td>
</tr>
<tr>
<td>4. acetylene</td>
<td>960 ppm</td>
</tr>
<tr>
<td>5. chloromethane</td>
<td>1020 ppm</td>
</tr>
<tr>
<td>6. vinyl chloride</td>
<td>860 ppm</td>
</tr>
<tr>
<td>7. chloroethane</td>
<td>960 ppm</td>
</tr>
</tbody>
</table>

Courtesy: H. Erlemeier, Zentrale Analytik, Hoechst AG, Germany

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