

Gases, hydrocarbons, C₁ – C₃

Application Note

Energy & Fuels

Authors

Agilent Technologies, Inc.

Introduction

Ethylene and residual propanes are impurities that must be quantified at low (ppm) levels in high-purity ethane, often alongside carbon monoxide and carbon dioxide. The Agilent CarboBOND column elutes the impurities in front of the ethane, providing excellent separation characteristics for all compounds and making the analysis very straightforward. Also, the C₃ hydrocarbons are nicely separated.

The CarboBOND column can be conditioned at 300 °C for quick bake-out. Due to the bonded layer, CarboBOND can be used with switching systems.



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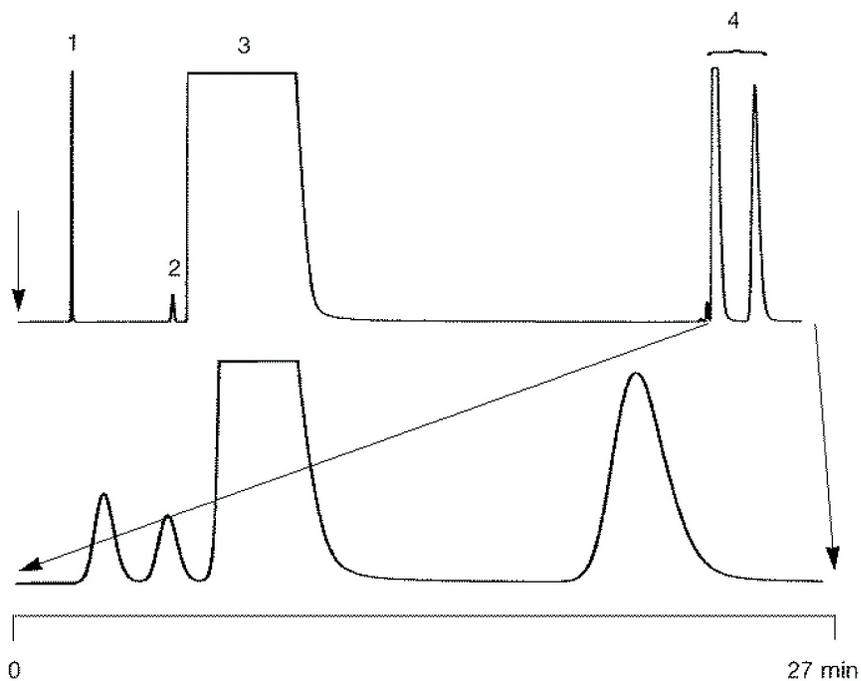
Conditions

Technique : GC-wide-bore
Column : Agilent CarboBOND, 0.53 mm x 25 m fused silica
PLOT (df = 5 μ m) (Part no. CP7371)
Temperature : 35 °C (7 min) \rightarrow 180 °C, 30 °C/min
Carrier Gas : He, 40 kPa (0.4 bar, 5 psi)
Injector : Split, 1:10
T = 30 °C
Detector : FID
T = 250 °C
Sample Size : 200 μ L
Concentration Range : 10 - 50 ppm in ethane,
synthetic standard

Courtesy : Jim Luong and Lyndon Sieben,
Dow Chemical Canada
Western Canada Operations

Peak identification

1. methane
2. ethylene
3. ethane
4. propane, propylene,
cyclopropane, propyne
(methylacetylene)



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This information is subject to change without notice.

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