Hydrocarbons, C_1 – C_2
Impurity determination in ethylene

Application Note

Materials Testing & Research

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Introduction

Gas chromatography using an Agilent CP-Al_2O_3/Na_2SO_4 column separates five C_1 to C_2 hydrocarbon impurities in ethylene in eight minutes.

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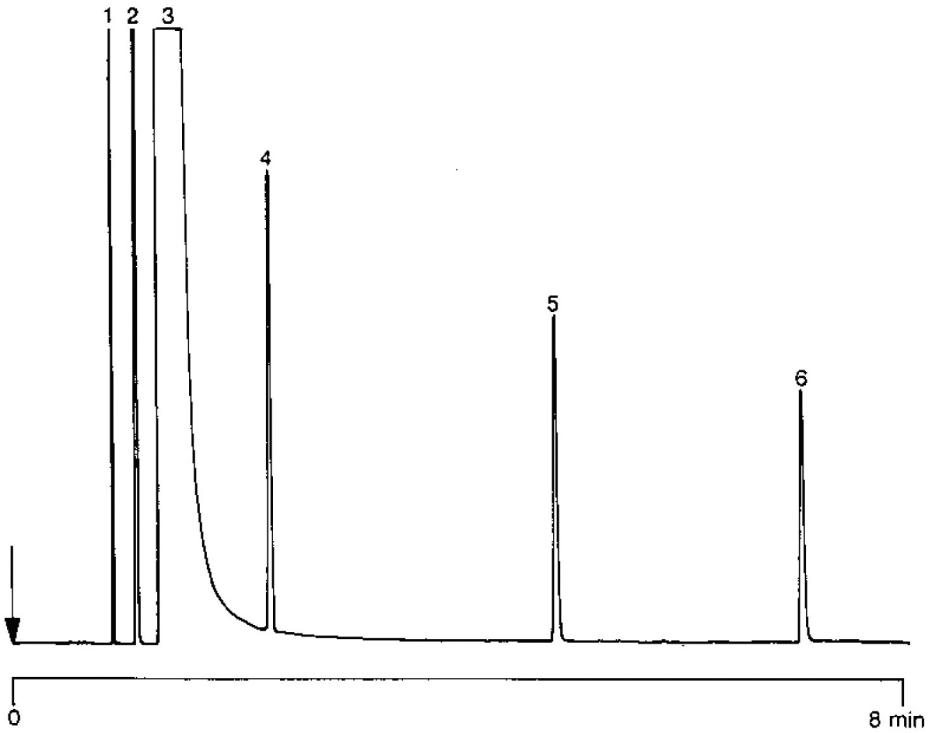
Conditions

Technique	:	GC-capillary
Column	:	Agilent CP-Al_2O_3/Na_2SO_4, 0.53 mm x 50 m fused silica PLOT Al_2O_3/Na_2SO_4 (df = 10 µm) (Part no. CP7568)
Temperature	:	60 °C (3 min) → 150 °C, 10 °C/min
Carrier Gas	:	He, 100 kPa (1.0 bar, 14 psi)
Injector	:	Splitter, 1:100 T = 200 °C
Detector	:	FID T = 300 °C
Sample Size	:	1 mL
Concentration Range	:	as listed below
Courtesy	:	Dow Chemical Canada, Western Canada Division, R & D Lab, Jim Luong and Steve Craik

Peak identification

1.	methane	85 ppm
2.	ethane	800 ppm
3.	ethylene	99% balanced
4.	propane	20 ppm
5.	propylene	20 ppm
6.	acetylene	30 ppm



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