



Hydrocarbons, $C_1 - C_4$

Analysis of impurities in 1,2,-butadiene

Materials Testing & Research

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Introduction

Gas chromatography using an Agilent CP- Al_2O_3/Na_2SO_4 column separates 16 C_3 to C_4 impurities in 1,2-butadiene in 20 minutes.



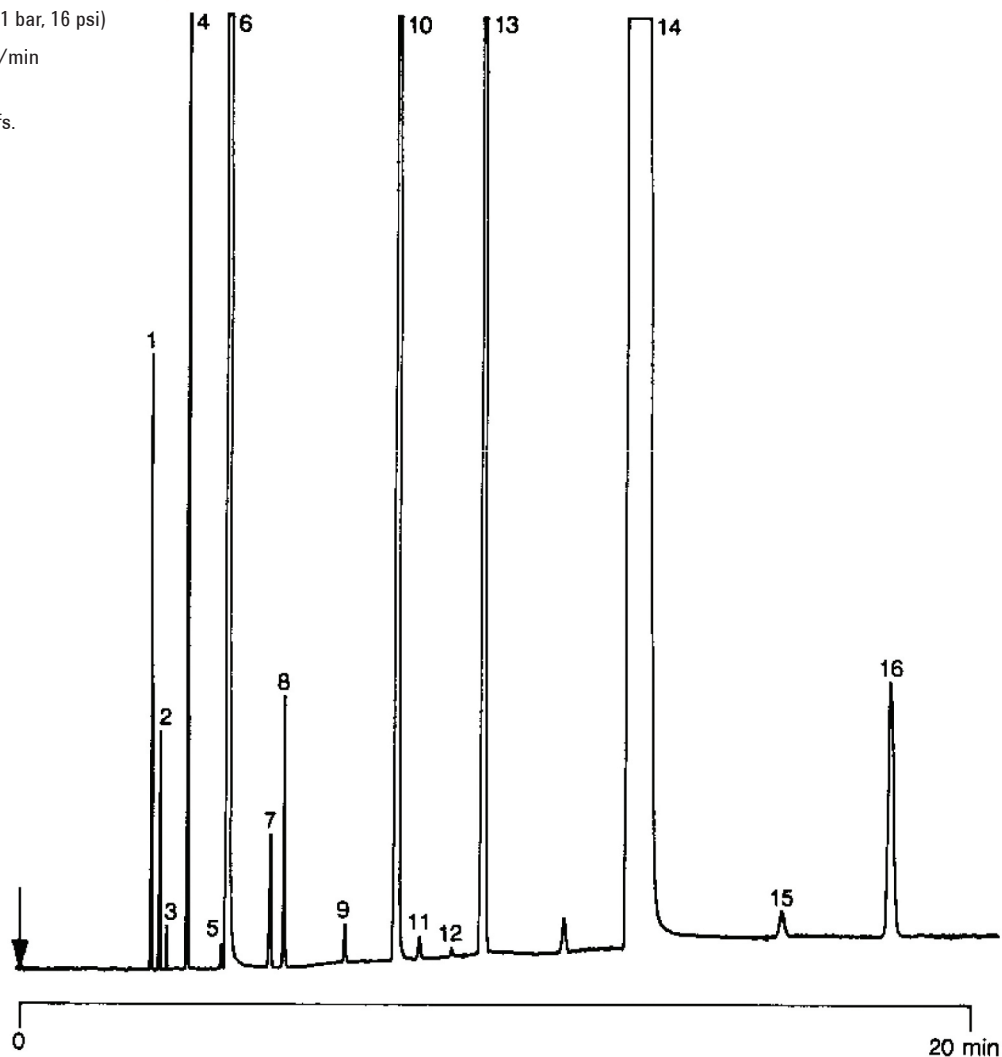
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Conditions

Technique : GC-capillary
Column : Agilent CP-Al₂O₃/Na₂SO₄, 0.32 mm x 50 m fused silica WCOT Al₂O₃/Na₂SO₄ (df = 5 µm) (Part no. CP7565)
Temperature : 110 °C
Carrier Gas : N₂, 110 kPa (1.1 bar, 16 psi)
Injector : Splitter, 20 mL/min
T = 150 °C
Detector : FID, 4 x 10⁻¹² Afs.
T = 200 °C
Sample Size : 100 µL
Concentration Range : 5 - 1000 ppm

Peak identification

1. methane
2. ethane
3. ethene (ethylene)
4. propane
5. cyclopropane
6. propene (propylene)
7. isobutane
8. n-butane
9. cyclobutane
10. trans-2-butene
11. 1-butene
12. isobutene
13. cis-2-butene
14. 1,2-butadiene
15. 1,3-butadiene
16. propyne



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