C_1 – C_4 hydrocarbons
Analysis of acetylenes mixture

Application Note

Energy & Fuels

Authors

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Introduction

Often ppm levels of hydrocarbon impurities must be measured and the response for such low levels must be accurate and reproducible over time. The Agilent Select Al_2O_3 MAPD is extensively deactivated, which results in highest response for traces of polar hydrocarbons including acetylenes and dienes. Selectivity of this Al_2O_3 PLOT column is very high and it separates all C_1 - C_5 hydrocarbons. Temperature stability is 200 °C. Also, for long term monitoring of impurities in hydrocarbon streams this column is the best choice.

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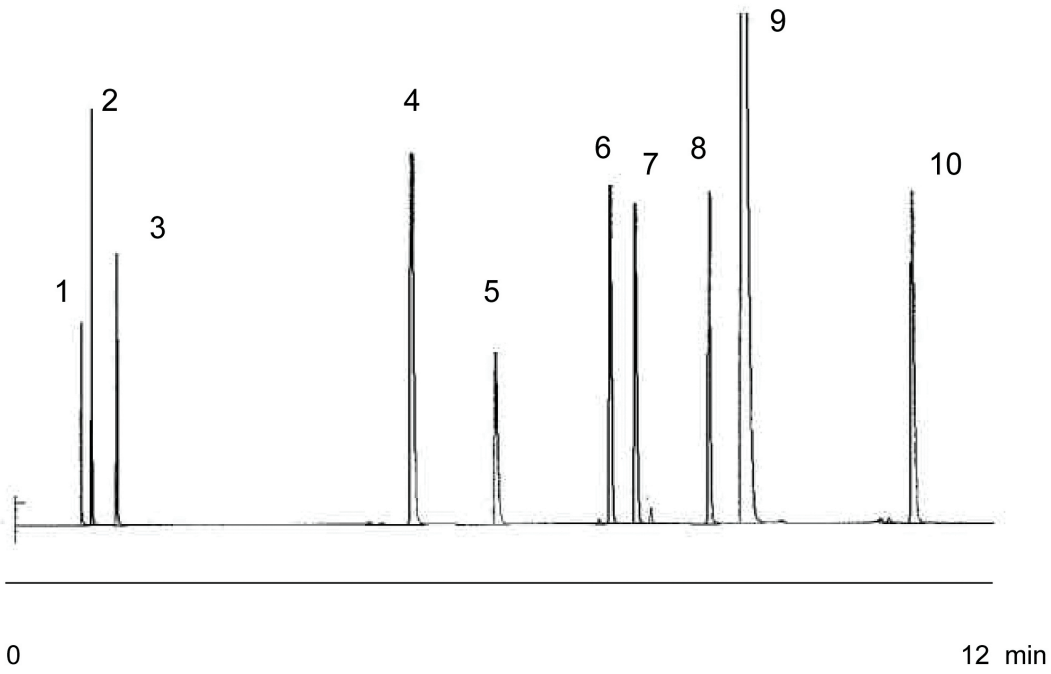
Conditions

Technique	:	GC
Column	:	Agilent Select Al_2O_3 MAPD, 0.53 mm x 50 m fused silica (Part no. CP7432)
Temperature	:	40 °C, 5min ⟶ 160 °C, 10 °C/min ⟶ 200 °C , 20 °C/min, hold 1 min
Carrier Gas	:	He, 4 psig, 4 min ⟶ 11 psig, 0.5 psig/min, 2 min
Injector	:	Split 60 mL/min
Detector	:	FID
Concentration Range	:	approx 100 ppm in nitrogen, synthetic standard
Courtesy	:	J. Luong, Dow Chemical Canada

Peak identification

1. methane
2. ethane
3. ethylene
4. n-butane
5. propadiene
6. 1-butene
7. iso-butene
8. 1,2-butadiene
9. 1,3-butadien e
10. ethyl acetylene



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