Impurities in propylene

Analysis of hydrocarbon impurities in propylene on a 0.53 mm column

Application Note

Materials Testing & Research

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 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 which separates all C1 - C5 hydrocarbons. Temperature stability is 200 °C. See applications 2036 -2043.

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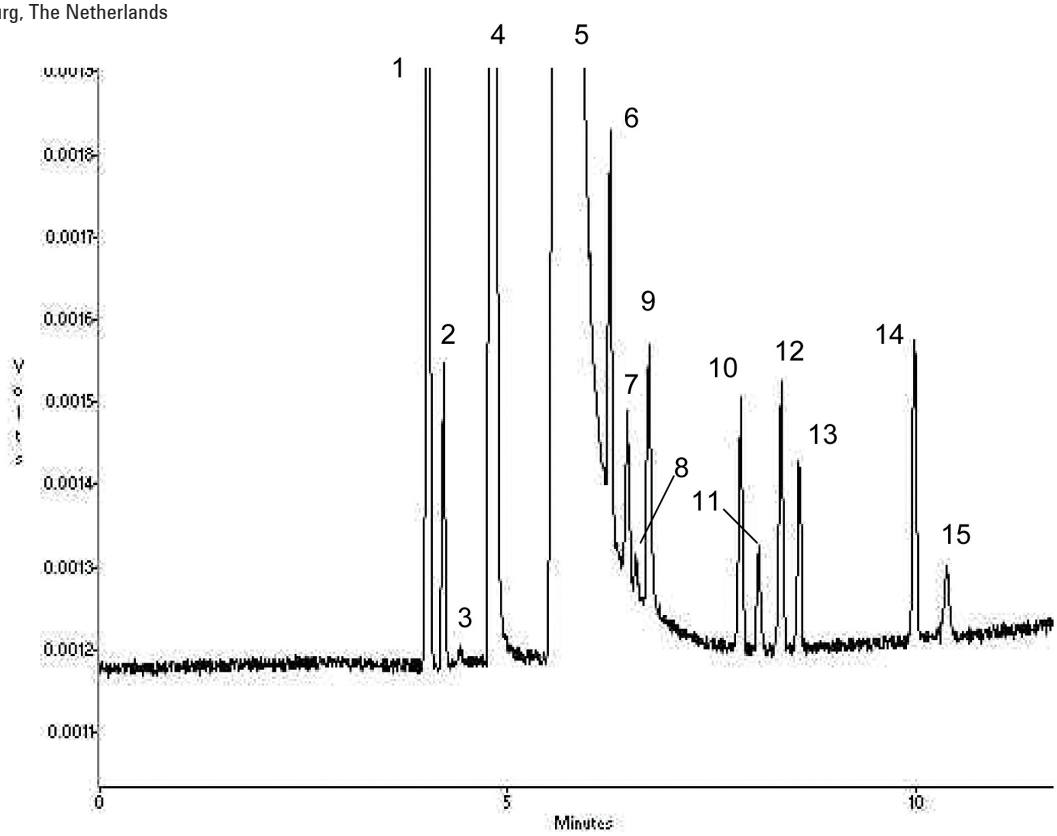
Conditions

Technique	:	GC
Column	:	Agilent Select Al_2O_3 MAPD, 0.53 mm x 50 m fused silica, Part no. CP7432
Temperature	:	80 °C, ⟶ 200 °C, 10 °C/min
Carrier Gas	:	He, 35 kPa, 15 psi
Injector	:	Split 60 mL/min
Detector	:	FID
Sample Size	:	100 µL
Concentration Range	:	4 -100 ppm in propylene

Courtesy : C. Duvekot, Agilent Application Laboratory, Middelburg, The Netherlands

Peak identification

1. methane
2. ethane
3. ethylene
4. propane
5. propylene
6. cyclopropane
7. butane
8. propadiene
9. acetylene
10. trans-2-butylene
11. butylene
12. iso-butylene
13. cis-2-butylene
14. 1,3-butadiene
14. methylacetylene



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