



Polycyclic aromatic hydrocarbons

Application Note

Environmental

Authors

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Introduction

GC with an Agilent VF-Xms column separates 13 polycyclic aromatic hydrocarbons in 30 minutes.

The FactorFour VF-Xms bonded phase has an optimized stabilization structure. Combined with fused silica surface treatment a temperature stability of at least 340 °C is obtained which results in very low bleed. Accurate quantification of trace components as well as fast stabilization and reduced contamination of detection systems (such as ms) are obtained. Due to the higher arylene content the column will be a little more polar than the VF-5ms phase.



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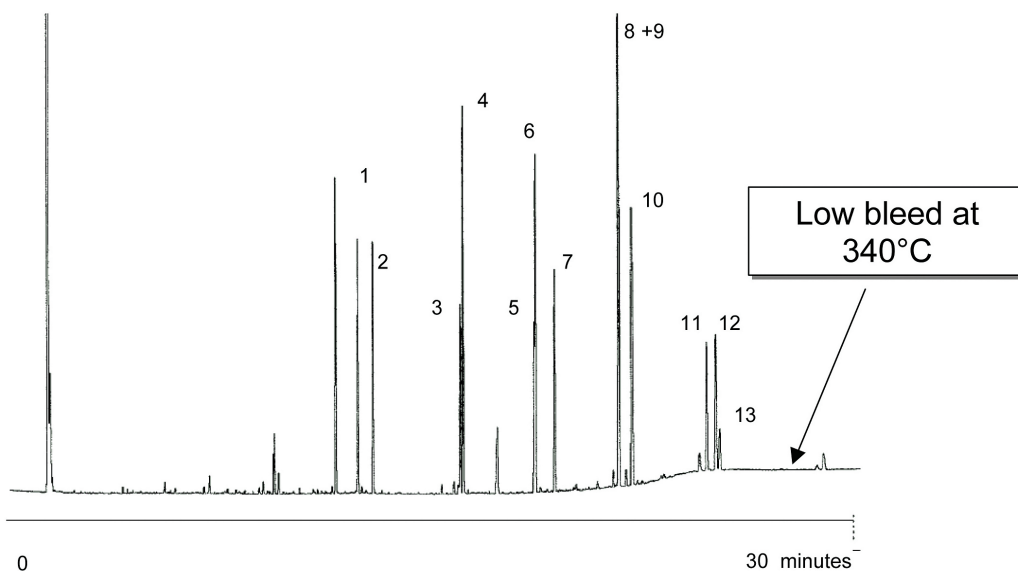
Conditions

Technique : GC-capillary
Column : Agilent VF-Xms, 0.25 mm x 30 m fused silica
(df = 0.10 μm) (Part no. CP8805)
Temperature : 100 $^{\circ}\text{C}$ \rightarrow 340 $^{\circ}\text{C}$, 3 $^{\circ}\text{C}/\text{min}$
Carrier Gas : Hydrogen, 100 kPa
Injector : Split, T = 275 $^{\circ}\text{C}$
Detector : FID
Sample Size : 1 μL
Concentration Range : ca. 3 ng per component on the column
Solvent Sample : hexane

Courtesy : J. Peene, Agilent R&D laboratories, Middelburg,
The Netherlands

Peak identification

1. fluoranthene
2. pyrene
3. benz(a)anthracene
4. chrysene
5. benzo(b)fluoranthene
6. benzo(k)fluoranthene
7. benzo(a)pyrene
8. indeno(1,2,3-cd)pyrene
9. dibenz(a,h)anthracene
10. benzo(g,h,i)perylene
11. dibenzo(a,e)pyrene
12. dibenzo(a,l)pyrene
13. dibenzo(a,h)pyrene



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