Polycyclic aromatic hydrocarbons

Application Note

Environmental

Introduction
The Agilent 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 then the VF- 5ms phase. The fragmentation of the phase produces low intensity 281 m/e fragment allowing accurate quantitation of trace levels of higher PAH.
**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 °C → 320 °C, 20 °C/min, 8 min 320 °C

Carrier Gas: Helium, 60 kPa

Injector: Split, T = 275 °C

Detector: ion trap

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. naphthalene
2. acenaphthylene
3. acenaphthene
4. fluorene
5. phenanthrene
6. anthracene
7. fluoranthene
8. pyrene
9. chrysene
10. benzo(a)anthracene
11. benzo(k)fluoranthene
12. benzo(b)fluoranthene
13. benzo(a)pyrene
14. indeno(1,2,3-cd)pyrene
15. dibenz(a,h)anthracene
16. benzo(g,h,i)perylene

www.agilent.com/chem

This information is subject to change without notice.

© Agilent Technologies, Inc. 2011
Printed in the USA
31 October, 2011
First published prior to 11 May, 2010
A01967

Agilent Technologies