

# **Aromatic hydrocarbons**

## **Air-toxics analysis in chemical plant**

### **Application Note**

Environmental

#### **Authors**

Agilent Technologies, Inc.

#### **Introduction**

It is important to have a fast analysis of possible toxic compounds that can be present in a chemical plant. In this application a series of aromatic compounds is determined, together with 1,3-butadiene. The selectivity of the Agilent Lowox column is highly unique, making this analysis possible within 11 minutes. Normally this method takes 25-30 minutes. Impurities are trapped on 3M badges containing a carbon disc. Detection limit is 0.15 ppm.

The method will also find artifacts such as limonene, acetone, and even alcohols.



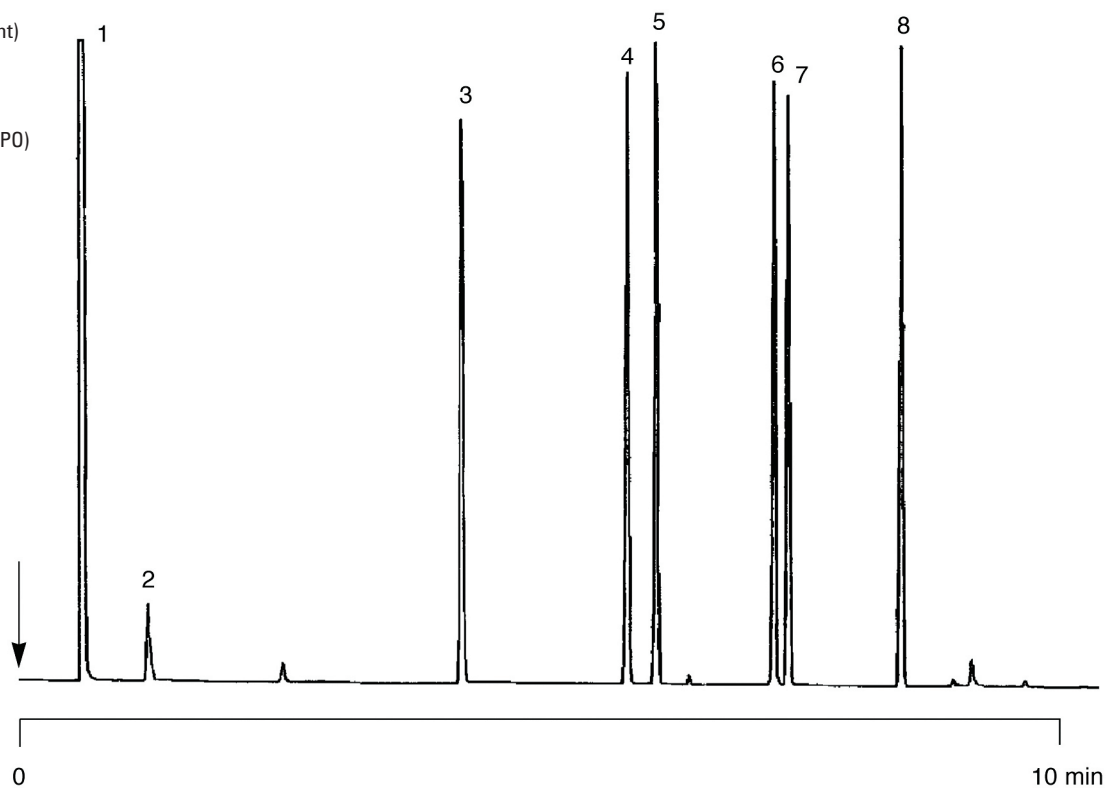
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## Conditions

Technique : GC-wide-bore  
Column : Agilent Lowox, 0.53 mm x 10 m fused silica PLOT  
(Part no. CP8587)  
Temperature : 60 °C → 250 °C, 20 °C/min  
Carrier Gas : He, 20 kPa (0.2 bar, 3 psi)  
Injector : Split, 1:20  
T = 150 °C  
Detector : MS-detection,  
Concentration Range : 1 µg/mL  
Solvent Sample : CS<sub>2</sub>

## Peak identification

1. carbon disulfide (solvent)
2. 1,3-butadiene
3. benzene
4. toluene
5. dicyclopentadiene (DCPD)
6. m-xylene + p-xylene
7. o-xylene
8. styrene



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