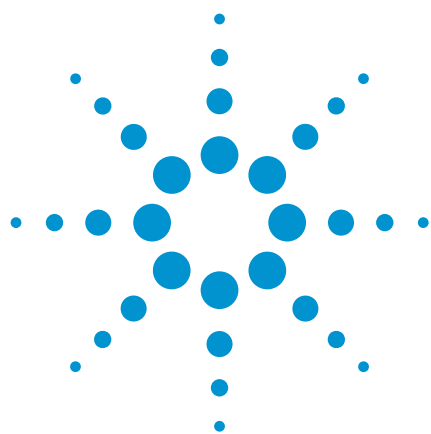




Amines, C₁ – C₁₂

Analysis of primary, secondary and tertiary amines

Application Note

Environmental

Authors

Agilent Technologies, Inc.

Introduction

Gas chromatography with an Agilent CP-Sil 13 CB column separates primary, secondary and tertiary amines in six to 22 minutes.



Agilent Technologies

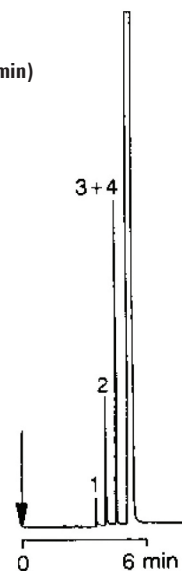
Conditions

Technique : GC-capillary
 Column : Agilent CP-Sil 13 CB, 0.32 mm x 50 m fused silica
 WCOT CP-Sil 13 CB (df = 1.2 µm) (Part no. CP7947)
 Temperature : 40 °C (2 min) → 250 °C, 10 °C/min
 Carrier Gas : He, 100 kPa (1 bar, 14.3 psi)
 Injector : Splitter, 100 mL/min
 T = 200 °C
 Detector : FID
 T = 275 °C
 Sample Size : 0.1 µL
 Concentration Range : 0.02 - 0.2%
 Solvent Sample : acetonitrile

Courtesy : Egil Forsberg and Britt-Marie Granell, Astra
 Pharmaceutical Production AB, Södertälje, Sweden

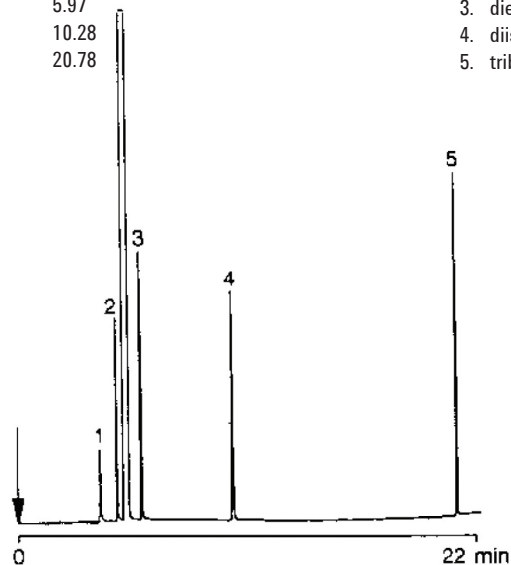
Primary amines (Amines C₁ - C₃)

Peak identification	Retention time (min)
1. methylamine	3.53
2. ethylamine	4.02
3. propylamine	4.51
4. isopropylamine	4.51



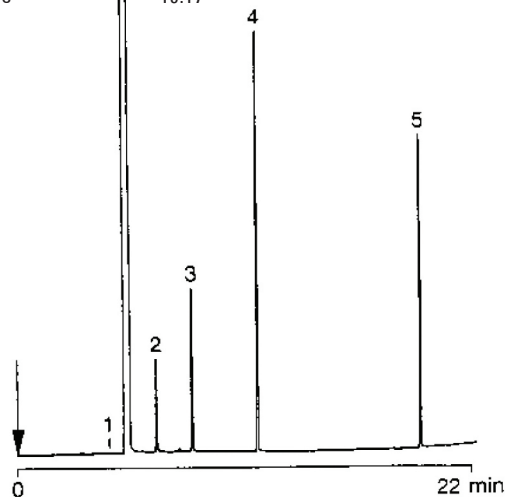
Secondary amines (Amines C₂ - C₁₀)

Peak identification	Retention time (min)
1. dimethylamine	3.90
2. ethylmethylamine	4.73
3. diethylamine	5.97
4. dipropylamine	10.28
5. benzylbutylamine	20.78



Tertiary amines (Amines C₃ - C₁₂)

Peak identification	Retention time (min)
1. trimethylamine	6.63
2. triethylamine	8.33
3. diethylmethylamine	11.43
4. diisopropylethylamine	19.17
5. tributylamine	19.17



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This information is subject to change without notice.

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