Drugs
Analysis of drugs of abuse (underivatized) in ecstasy tablet

Application Note

Forensic Toxicology

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Introduction
Gas chromatography using an Agilent CP-Sil 8 CB column separates five underivatized drugs of abuse in an ecstasy tablet in 15 minutes.

As a retention gap, a high temperature stable, thin film coated piece of a nonpolar fused silica column was used.

This resulted in a better peak shape for the basic compounds and a longer lifetime of the precolumn under these injection.
Conditions

Technique: GC-capillary

Column: Agilent CP-Sil 8 CB, 0.32 mm x 25 m fused silica WCOT (df = 0.25 μm) (Part no. CP7452)

Precolumn: Agilent CP-SimDist, 0.53 mm x 2 m, fused silica WCOT (df = 0.1 μm) (Part no. CP7541) (for 10 m column)

Temperature:
75 °C (1 min) → 200 °C, 20 °C/min;
200 °C → 280 °C, 15 °C/min; 280 °C (3 min)

Carrier Gas: He, 80 kPa (0.8 bar, 11 psi)

Injector: on-column, T = 75 °C

Detector: NPD, T = 300 °C

Sample Size: 1.0 μL

Concentration Range: %-levels

Solvent Sample: hexane

Courtesy: Dr. L.J. Mostert and Mrs. J. Hoek, Delta psychiatric hospital, Deltalab, Poortugaal, the Netherlands

Peak identification

1. amphetamine (7%)
2. MDMA (3,4-methylenedioxymethylamphetamine) (12%)
3. MDEA (3,4-methylenedioxyethylamphetamine) (2%)
4. caffeine (1 %)
5. chirald (internal standard).

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