**Solvents**

Headspace analysis of solvents to European Pharmacopoeia method and USP

Application Note

BioPharma

**Authors**

Agilent Technologies, Inc.

**Introduction**

Gas chromatography using headspace analysis and an Agilent CP-Select 624 CB column separates eight residual solvents in 20 minutes according to European Pharmacopoeia and USP methods.
Conditions

Technique: GC-capillary

Column: Agilent CP-Select 624 CB, 0.32 mm x 30 m fused silica WCOT CP-Select 624 CB (df = 1.8 μm) (Part no. CP7414)

Temperature: 40 °C (7 min) → 150 °C, 10 °C/min

Carrier Gas: He, 40 kPa (0.4 bar, 5.7 psi) with EPC, constant flow

Injector: Splitter, 150 °C, split vent 32 mL/min

Detector: FID

T = 240 °C

Sample Size: Headspace, 1000 μL from a 5 mL sample, incubated 15 min at 85 °C

Concentration range: 0.005 and 0.01 g each in 100 mL water (50-100 ppm)

Peak identification

1. acetonitrile
2. dichloromethane
3. trichloromethane
4. benzene
5. trichloroethylene
6. dioxane
7. pyridine
8. dimethyl sulfoxide (dilution solvent)