Adipate and phthalate esters
Analysis of plasticizers

Application Note

Materials Testing & Research

Authors
Agilent Technologies, Inc.

Introduction
Gas chromatography with an Agilent CP-Sil 13 CB column separates 12 adipate and phthalate esters used as plasticizers in 24 minutes.
Conditions

Technique: GC-capillary

Column: Agilent CP-Sil 13 CB, 0.32 mm x 50 m fused silica WCOT CP-Sil 13 CB (df = 0.4 μm)

Temperature: 80 °C → 270 °C, 20 °C/min; 270 °C (14.5 min)

Carrier Gas: H₂, 100 kPa (1.0 bar, 14 psi)

Injector: On-column

Detector: FID

T = 300 °C

Sample Size: 1 μL

Concentration Range: 25 ng/μL

Courtesy: Mr Lembacher, Hipp K. G., Pfaffenhofen, Germany

Peak identification

1. dimethyl phthalate
2. diethyl phthalate + ethyl phthalate
3. diallyl phthalate
4. diisobutyl phthalate
5. dibutyl phthalate
6. dimethylglycol phthalate
7. dibutyl adipate
8. bis(2-ethylhexyl) phthalate
9. butylbenzyl phthalate
10. bis(2-ethylhexyl) phthalate
11. cyclohexyl phthalate
12. phenyl phthalate

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
A00617