Phthalates (50 µg/mL) on Rtx-440 (Extended List, Full Scan Mode)

Peaks
1. Dimethyl phthalate
2. Dimethyl isophthalate
3. Diethyl phthalate
4. Benzyl benzoate
5. Dibutyl phthalate
6. Di-n-butyl phthalate
7. Bis(2-methoxyethyl) phthalate
8. Bis(2-ethylhexyl) phthalate
9. Bis(2-ethylhexyl) isophthalate
doctor
5. Benzyl 2-ethyphthalate
6. Di-n-n-butyl phthalate
7. Bis(4-methylcyclohexyl) phthalate isomer 1
23. Bis(4-methylcyclohexyl) phthalate isomer 2
21. Hexyl isophthalate
22. Bis(4-methylcyclohexyl) phthalate isomer 3
26. Bis(2-ethylhexyl) isophthalate
27. Diphenyl phthalate
28. Bis(4-methylcyclohexyl) phthalate isomer 1
29. Bis(4-methylcyclohexyl) phthalate isomer 2
30. Bis(4-methylcyclohexyl) phthalate isomer 3
31. Bis(2-ethylhexyl) isophthalate
32. Diphenyl isophthalate
33. Dibenzyl phthalate
34. Diisononyl phthalate
35. Diisobutyl phthalate
36. Butyl benzyl phthalate
37. Butyl 2-ethylhexyl phthalate
38. Butyl isodecyl phthalate
39. Bis(2-ethylhexyl)hexahydro phthalate
40. Bis(2-n-butoxyethyl) phthalate

Column
Rtx-440, 30 m, 0.25 mm ID, 0.25 µm (cat.# 12923)

Sample
Phthalate standards mixture

Diluent:
Methylene chloride (cat.# 11967)

Conc.:
50 µg/mL (80 µg/mL for internal standard benzyl benzoate)

Injection
1 µl split (split ratio 20:1)

Liners:
Premium 3.5 mm Precision liner w/wool (cat.# 23320.1)

Temp.: 280 °C

Split Vent Flow Rate:
3 mL/min

Oven
150 °C (hold 0.8 min) to 200 °C at 5 °C/min to 275 °C at 3 °C/min (hold 2 min)

Carrier Gas
He, constant linear velocity, 48 cm/sec, 21.4 psi, 167.5 kPa @ 150 °C

Detector
MS

Mode:
Scan

Scan Program:

<table>
<thead>
<tr>
<th>Group</th>
<th>Start Time (min)</th>
<th>Scan Range (amu)</th>
<th>Scan Rate (scans/sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.5</td>
<td>59-400</td>
<td>-</td>
</tr>
</tbody>
</table>

Transfer Line Temp.: 100 °C
Analyzer Type: Quadrupole
Source Temp.: 280 °C
Electron Energy: 70 eV
Solvent Delay Time: 2.5 min
Ionization Mode: PFTBA

Instrument:
Shimadzu 2010 GC & QP2010+ MS

Notes:
The constant linear velocity of 48 cm/sec is equivalent to approximately 1.61 mL/min at 150 °C. The MS scan interval is 0.1 sec.

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The authors would like to thank Shimadzu Corporation for their consultation with the operation of the QP2010 Plus GC-MS instrument.