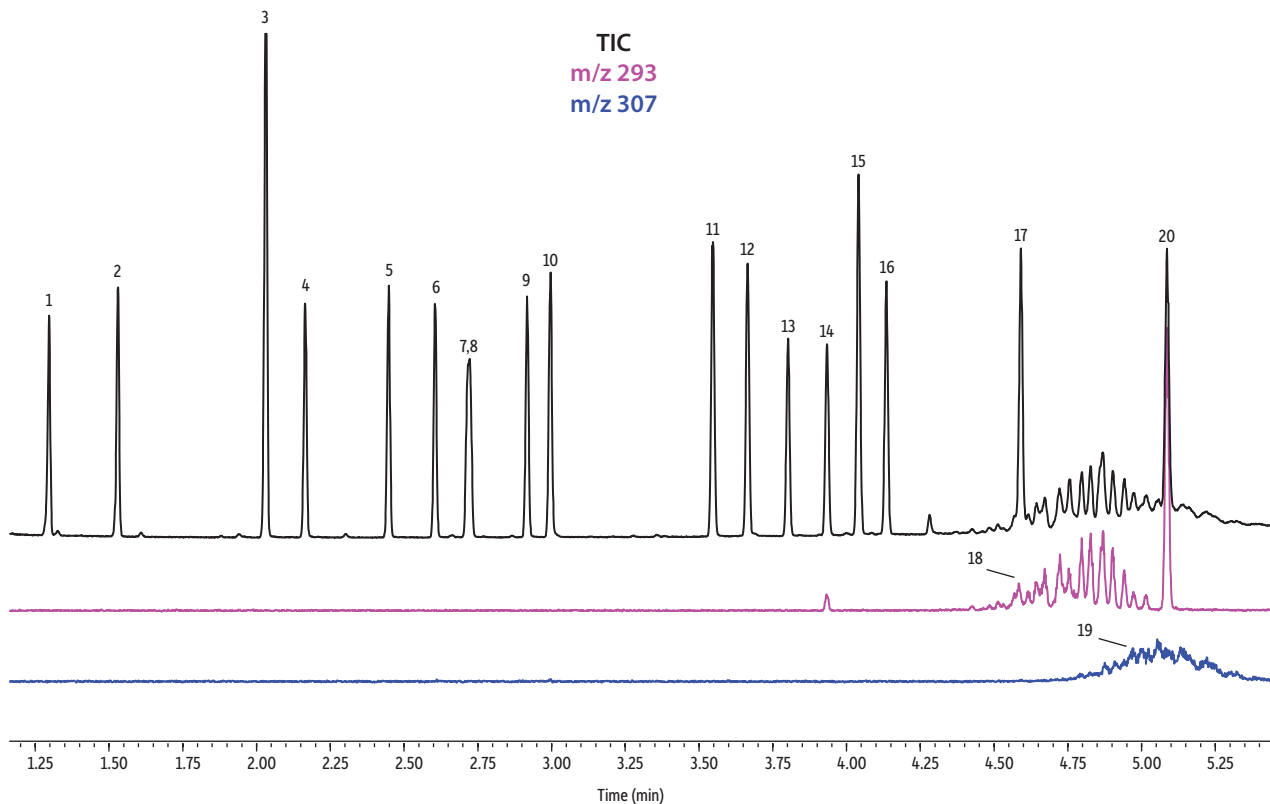


# EPA and EU Phthalates on Rtx-440



Time (min)

GC\_EV1408

## Peaks

1. Dimethyl phthalate
2. Diethyl phthalate
3. Benzyl benzoate
4. Diisobutyl phthalate
5. Di-*n*-butyl phthalate
6. Bis(2-methoxyethyl) phthalate
7. Bis[4-methyl-2-pentyl] phthalate isomer 1
8. Bis[4-methyl-2-pentyl] phthalate isomer 2
9. Bis(2-ethoxyethyl) phthalate
10. Di-*n*-pentyl phthalate
11. Di-*n*-hexyl phthalate
12. Butyl benzyl phthalate
13. Hexyl-2-ethylhexyl phthalate
14. Bis(2-butoxyethyl) phthalate
15. Bis(2-ethylhexyl) phthalate
16. Dicyclohexyl phthalate
17. Di-*n*-octyl phthalate
18. Diisononyl phthalate
19. Diisodecyl phthalate
20. Dinonyl phthalate

## Column

### Standard/Sample

### Diluent:

Conc.:

### Injection

Inj. Vol.:

Liner:

Inj. Temp.:

Split Vent Flow Rate:

### Oven

Oven Temp.:

### Carrier Gas

Linear Velocity:

### Detector

Mode:

Scan Program:

Rtx-440, 30 m, 0.25 mm ID, 0.25  $\mu$ m (cat.# 12923)

Benzyl benzoate (cat.# 31847)

EPA Method 8061A phthalate esters mixture (cat.# 33227)

Diisononyl phthalate

Diisodecyl phthalate

Hexyl-2-ethylhexyl phthalate

Methylene chloride

50.0  $\mu$ g/mL (80  $\mu$ g/mL for internal standard benzyl benzoate)

1  $\mu$ L split (split ratio 20:1)

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

280 °C

3 mL/min

200 °C (hold 0.5 min) to 330 °C at 30 °C/min (hold 1 min)

He, constant linear velocity

66.7 cm/sec, 39.5 psi, 272.3 kPa @ 200 °C

MS

Scan

Group	Start Time (min)	Scan Range (amu)	Scan Rate (scans/sec)
1	0.9	59-400	-

Transfer Line Temp.:

Analyzer Type: Quadrupole

Source Temp.:

Electron Energy:

Solvent Delay Time:

Tune Type:

Ionization Mode:

### Instrument

### Notes

### Acknowledgement

300 °C

280 °C

70 eV

0.9 min

PFTBA

EI

Shimadzu 2010 GC & QP2010+ MS

The constant linear velocity of 66.7 cm/sec is equal to 3 mL/min @ 200 °C.

The MS scan interval is 0.1 sec.

The authors would like to thank Shimadzu Corporation for their consultation with the operation

of the QP2010 Plus GC-MS instrument.