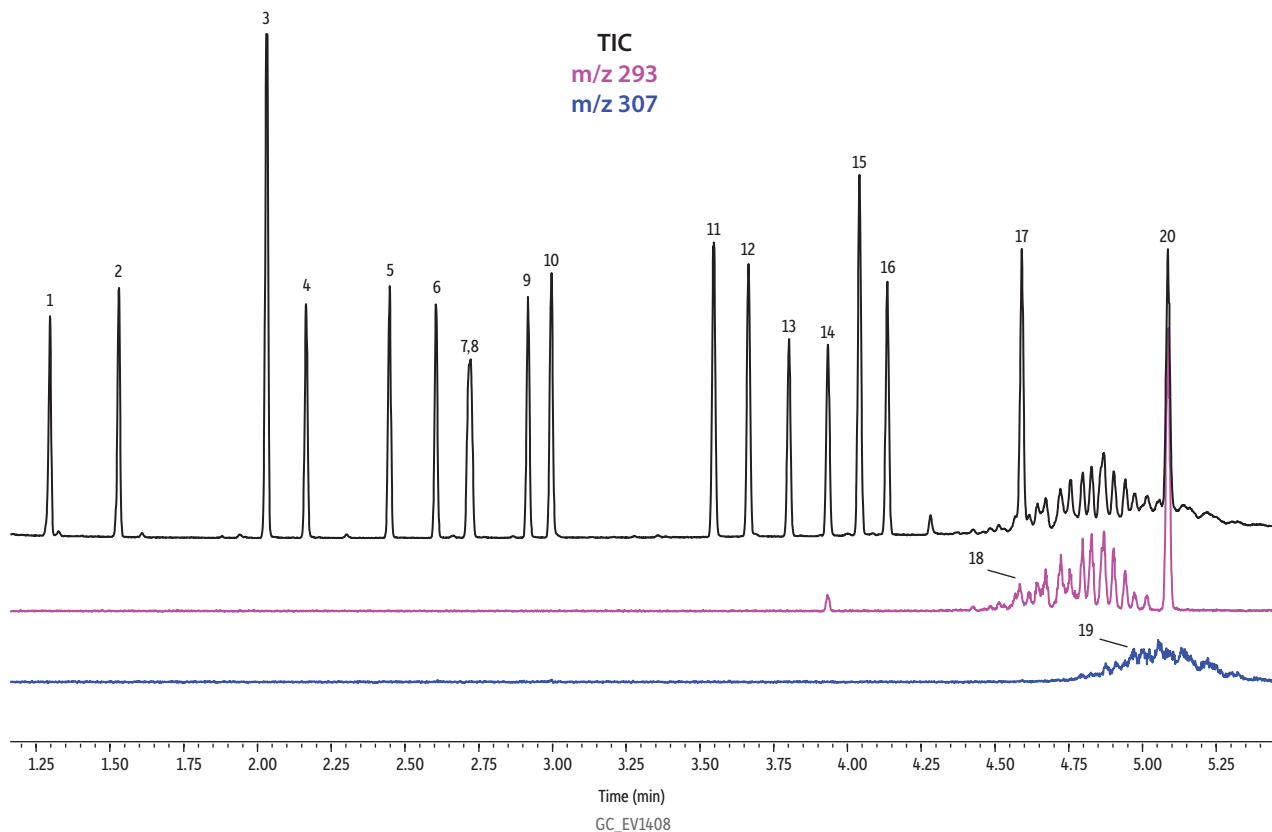


EPA and EU Phthalates on Rtx®-440

- 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

- Peaks**
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 Rtx®-440, 30 m, 0.25 mm ID, 0.25 µm (cat.# 12923)
Sample Benzyl benzoate (cat.# 31847)
 EPA Method 8061A phthalate esters mixture (cat.# 33227)
Diluent: Methylene chloride
Conc.: 50.0 µg/mL (80 µg/mL for internal standard benzyl benzoate)
Injection
Inj. Vol.: 1 µL split (split ratio 20:1)
Liner: Premium 3.5 mm Precision® liner w/wool (cat.# 23320.1)
Inj. Temp.: 280 °C
Split Vent Flow
Rate: 3 mL/min
Oven
Oven Temp.: 200 °C (hold 0.5 min) to 330 °C at 30 °C/min (hold 1 min)
Carrier Gas He, constant linear velocity
Linear Velocity: 66.7 cm/sec, 39.5 psi, 272.3 kPa @ 200 °C
Detector MS
Mode: Scan

Scan Program:

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

Transfer Line
 Temp.: 300 °C
 Analyzer Type: Quadrupole
 Source Temp.: 280 °C
 Electron Energy: 70 eV
 Solvent Delay

Time: 0.9 min
 Tune Type: PFTBA
 Ionization Mode: EI

Instrument Notes
 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.

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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.