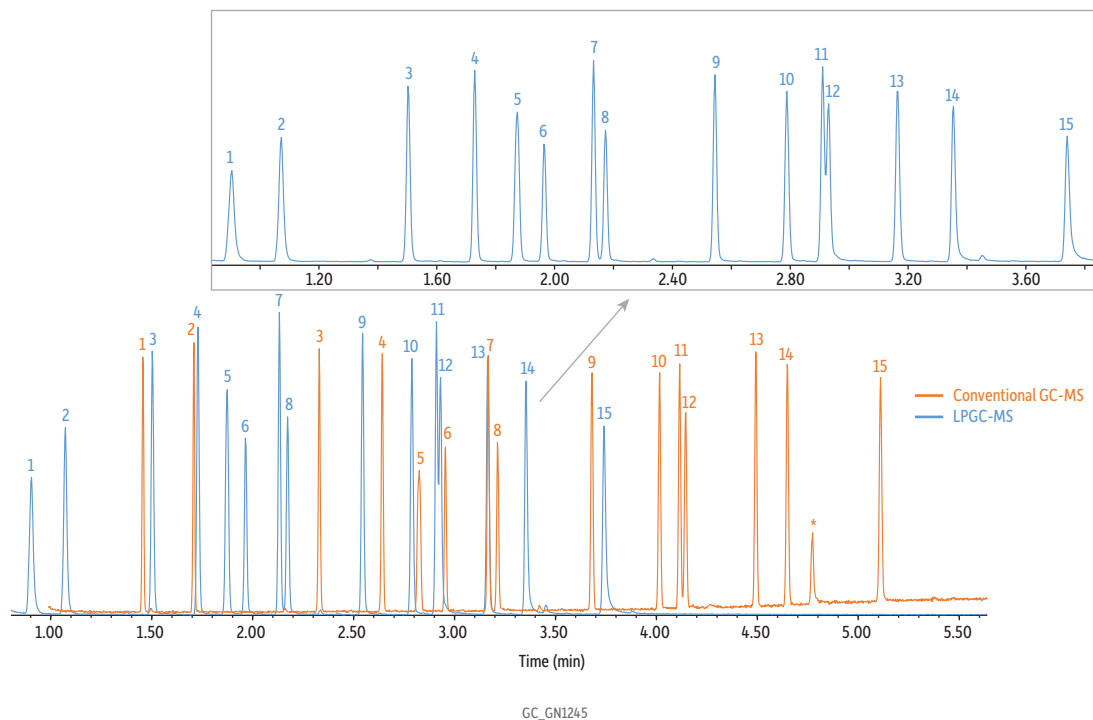


## Comparison of Conventional and LPGC-MS Analysis of EPA Regulated Phthalates

- LPGC-MS is 1.4x faster and uses 67% less helium compared to conventional GC-MS.



GC\_GN1245

Peaks	tr (30 m)	tr (LPGC)	Conc. (ppm)	Column	See notes
1. Dimethyl phthalate	1.456	0.904	10	Standard/Sample	EPA method 8061A phthalate esters mixture (cat.# 33227)
2. Diethyl phthalate	1.709	1.073	10	Diluent:	Hexane
3. Diisobutyl phthalate	2.33	1.504	10	Conc.:	100 µg/mL
4. Di- <i>n</i> -butyl phthalate	2.642	1.73	10	Injection	
5. Bis(2-methoxyethyl) phthalate	2.824	1.873	10	Inj. Vol.:	1 µL split (split ratio 10:1)
6. Bis[4-methyl-2-pentyl] phthalate isomers	2.955	1.964	10	Liner:	Topaz, splitless, single taper inlet liner, 4.0 mm x 6.5 x 78.5 (cat.# 23303)
7. Di- <i>n</i> -pentyl phthalate	3.167	2.133	10	Inj. Temp.:	280 °C
8. Bis(2-ethoxyethyl) phthalate	3.212	2.173	10	Carrier Gas	He
9. Di- <i>n</i> -hexyl phthalate	3.68	2.545	10	Detector	MS
10. Butyl benzyl phthalate	4.015	2.789	10	Mode:	Scan
11. Bis(2-ethylhexyl) phthalate	4.115	2.911	10	Transfer Line Temp.:	280 °C
12. Bis(2-butoxyethyl) phthalate	4.146	2.931	10	Analyzer Type:	Quadrupole
13. Dicyclohexyl phthalate	4.492	3.166	10	Source Temp.:	330 °C
14. Di- <i>n</i> -octyl phthalate	4.649	3.357	10	Quad Temp.:	180 °C
15. Dinonyl phthalate	5.11	3.741	10	Electron Energy:	70 eV
				Tune Type:	PFTBA
				Ionization Mode:	El
				Instrument	Agilent 7890B GC & 5977A MSD
				Sample Preparation	The standard was diluted with hexane to 100 ppm; analyzed in a 2 mL, short-cap, screw-thread vial (cat.# 21143); and capped with a short-cap, screw-vial closure (cat.# 24495).
				Notes	<b>Conventional (30 m) Analysis:</b> Column: Rxi-35Sil MS, 30 m, 0.25 mm ID, 0.25 µm (cat.# 13823) Temp. program: 200 °C (hold 0.5 min) to 330 °C at 30 °C/min (hold 5 min) Flow: 2 mL/min Scan start time: 0.9 min Scan range: 55-400 amu Scan rate: 10 scans/sec
					<b>LPGC-MS Analysis:</b> Column: LPGC Rxi-35Sil MS column kit, includes 10 m x 0.32 mm ID x 0.25 µm Rxi-35Sil MS analytical column and 5 m x 0.15 mm ID Rxi restrictor factory connected via SilTite connector (cat.# 11806) Temp. program: 180 °C (hold 0.5 min) to 200 °C at 75 °C/min to 300 °C at 35 °C/min (hold 5 min) Flow: 0.9 mL/min Scan start time: 0.5 min Scan range: 55-300 amu Scan rate: 9.7 scans/sec
					For phthalates analysis, we also recommend Resprep C18 SPE disks (cat.# 24004) and C18 SPE cartridges (cat.# 28961) for sample preparation.

\* = Contaminant