

CoreFocus
Report
No.406

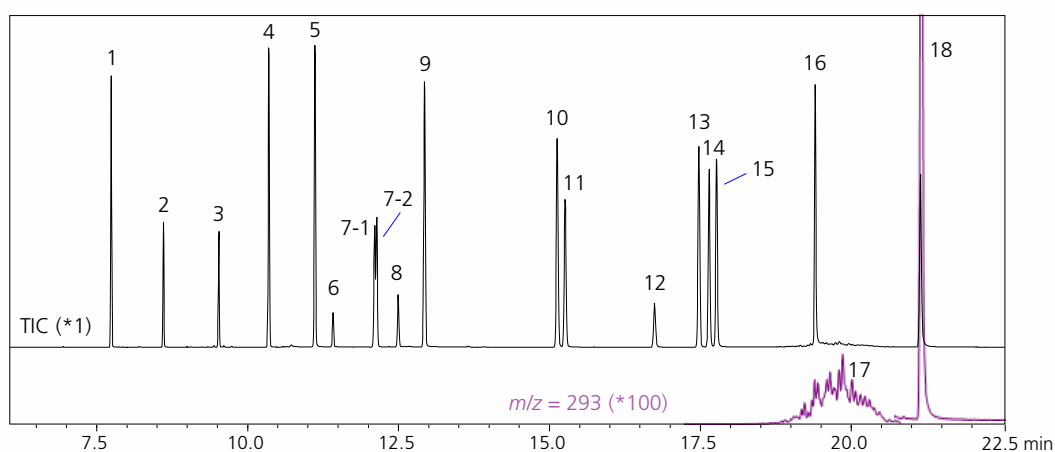
GCMS

SH Series

SH-I-5Sil MS

Determine the Phthalate Content in E-liquid

Keywords: the National Food Safety Standards, e-cigarettes



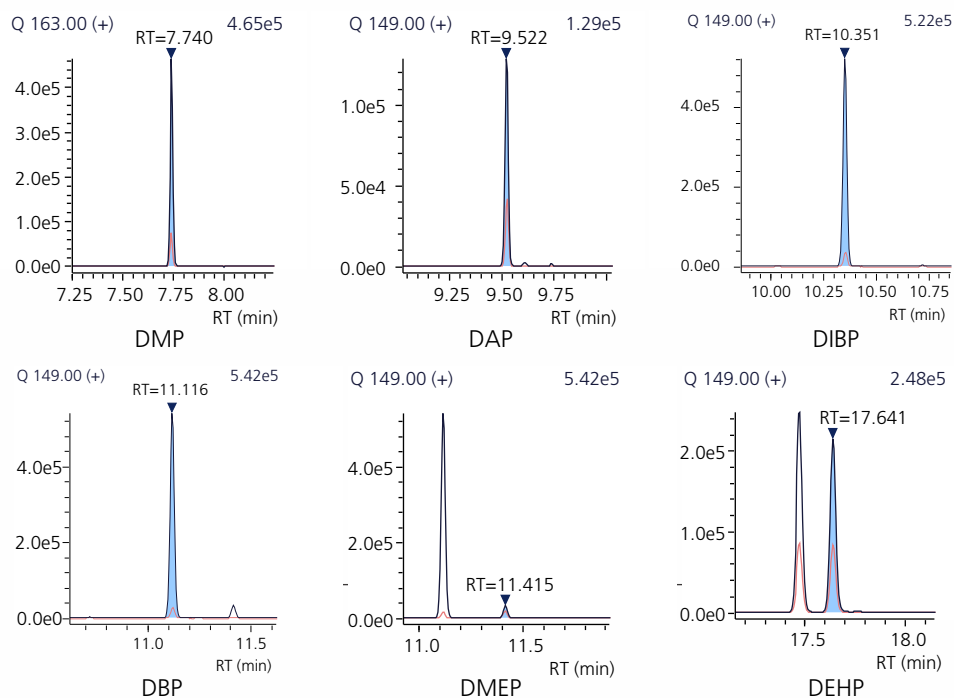
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|------------------------------------|----------------------------------|
| 1. Dimethyl phthalate | 10. Di-n-hexyl phthalate |
| 2. Diethyl phthalate | 11. Butyl benzyl phthalate |
| 3. Diallyl phthalate | 12. Bis(2-butoxyethyl) phthalate |
| 4. Diisobutyl phthalate | 13. Dicyclohexyl phthalate |
| 5. Dibutyl phthalate | 14. Bis(2-ethylhexyl) phthalate |
| 6. Bis(methylglycol) phthalate | 15. Diphenyl phthalate |
| 7-1. Bis(4-methylpentyl) phthalate | 16. Dioctyl phthalate |
| 7-2. Bis(4-methylpentyl) phthalate | 17. Diisononyl phthalate |
| 8. Bis(2-ethoxyethyl) phthalate | 18. Dinonyl phthalate |
| 9. Di-n-pentyl phthalate | |

TIC Chromatogram for the Phthalate Standards and the m/z 293 Ion Peak for Diisononyl phthalate (No. 17)

Model	: GCMS-QP™2010 NX
Column	: SH-I-5Sil MS (30 m x 0.25 mm I.D., 0.25 μm) P/N : 221-75954-30
Column temp.	: 60 °C (1 min) - 20 °C/min - 220 °C (1 min) - 5 °C/min - 250 °C (1 in) - 20 /min - 290 °C (7.5 min)
Injection temp.	: 260 °C
Carrier gas control mode	: Constant flow (81 mL/min)
Injection mode	: Splitless
Injection volume	: 1.0 μL
Ionization mode	: EI
Ion source temp.	: 230 °C
Interface temp.	: 280 °C
Data acquisition mode	: SIM

Compounds, Retention Times, and Selected Ions

No.	Compound	Abbreviation	Retention Time (min)	CAS No.	Quantitative Ion (m/z)	Qualitative Ion (m/z)
1	Dimethyl phthalate	DMP	7.740	131-11-3	163	77, 194
2	Diethyl phthalate	DEP	8.605	84-66-2	149	177, 105
3	Diallyl phthalate	DAP	9.522	131-17-9	149	189, 132
4	Diisobutyl phthalate	DIBP	10.351	84-69-5	149	223, 163
5	Dibutyl phthalate	DBP	11.116	84-74-2	149	223, 205
6	Bis(methylglycol) phthalate	DMEP	11.415	117-82-8	149	104, 176
7-1	Bis(4-methylpentyl) phthalate	BMPP-1	12.102	146-50-9	149	85, 167
7-2	Bis(4-methylpentyl) phthalate	BMPP-2	12.138	146-50-9	149	85, 167
8	Bis(2-ethoxyethyl) phthalate	DEEP	12.491	605-54-9	149	104, 193
9	Di-n-pentyl phthalate	DPP	12.930	131-18-0	149	237, 219
10	Di-n-hexyl phthalate	DHXP	15.126	84-75-3	149	251, 233
11	Butyl benzyl phthalate	BBP	15.258	85-68-7	149	91, 206
12	Bis(2-butoxyethyl) phthalate	DBEP	16.739	117-83-9	149	101, 193
13	Dicyclohexyl phthalate	DCHP	17.473	84-61-7	149	167, 249
14	Bis(2-ethylhexyl) phthalate	DEHP	17.641	117-81-7	149	167, 279
15	Diphenyl phthalate	DPhP	17.764	84-62-8	225	77, 104
16	Dioctyl phthalate	DNOP	19.402	117-84-0	279	261
17	Diisononyl phthalate	DINP	19.802	28553-12-0	293	127
18	Dinonyl phthalate	DNP	21.141	84-76-4	149	293, 275



Mass Chromatograms for Some of the Compounds

Source : Application News 03-GCMS-407 ([JP](#), [ENG](#))

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