

The Gas Chromatography/Mass Spectrometry (GC/MS) Analyze Report of Di-octyl terephthalate (DOTP)

The DOTP sample sent by LEBA Company was firstly extracted with GC grade high purity hexane. Then, it was analyzed with an Agilent 6890N gas chromatograph (GC) equipped with a mass selective detector (Agilent 5975 inert MSD) working at electron impact ionization mode. A capillary column (HP-5ms, 30 m, 0.25 mm, 0.25 μm) was used. The carrier gas (helium) was used at constant flow mode (1.8 mL min^{-1}) with a linear velocity of 49 cm s^{-1} . The initial oven temperature was held at 40°C for 3 min, raised to 300°C at 6°C min^{-1} , and held for 5 min. Total run time was 51.33 min. and the injection volume was $1.0 \mu\text{l}$. The injector, ion source and quadrupole temperatures were 280, 230 and 150°C , respectively. The results of GC/MS were presented in Figure 2 and Table 1.

Table 1. GC/MS Library Search Report

Search Libraries: C:\Database\wiley7n.l

Pk#	RT	Area%	Library/ID
1	31.866	0.28	Heneicosane
2	36.220	0.14	Hexanedioic acid
3	40.844	99.58	Diocetyl terephthalate Bis(2-ethylhexyl) terephthalate

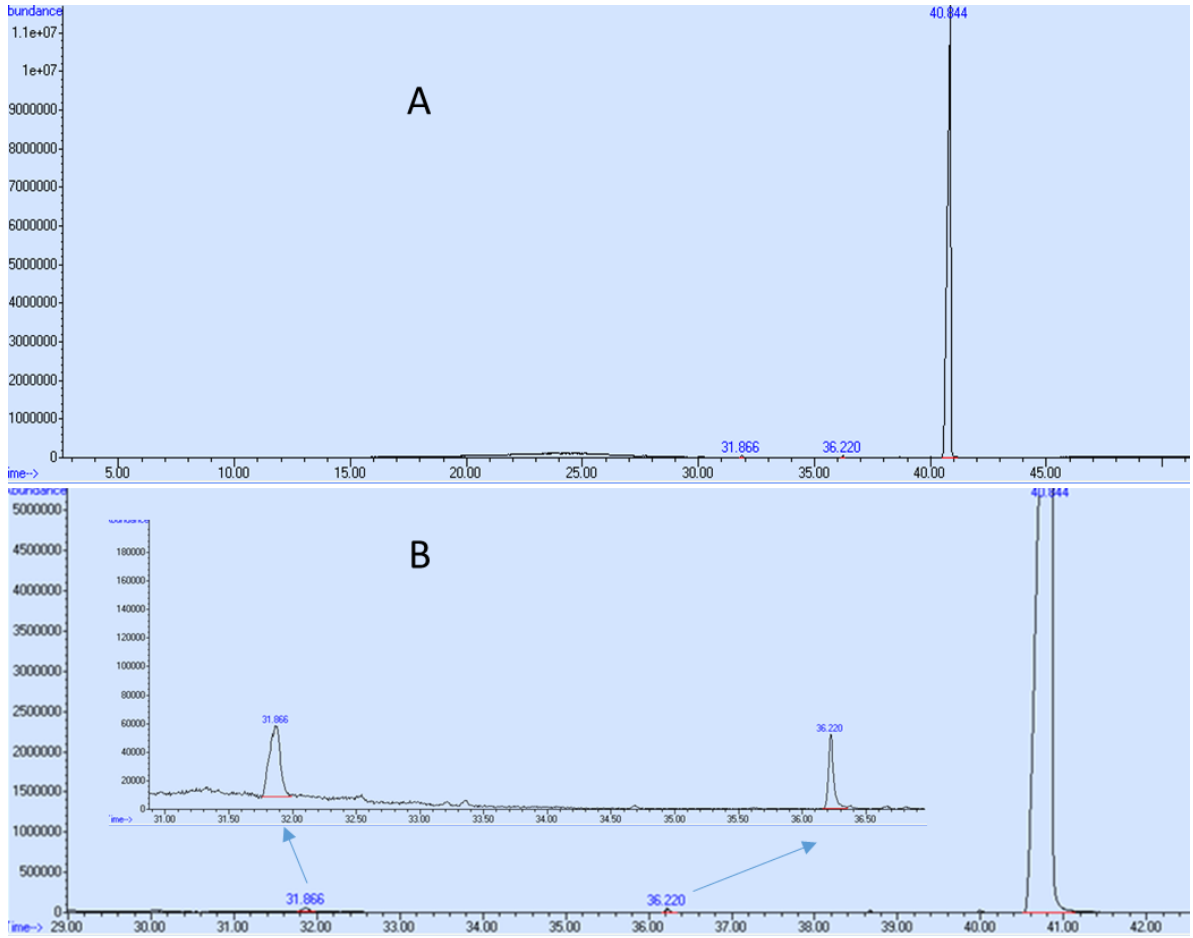


Figure 2. The chromatogram of DOTP sample obtained from GC/MS; A) actual B) zoomed
As can be seen from the figure, peak obtained at 40.844 minute is belong to DOTP. Only two peaks at 31.866 minute named Heneicosane and at 36.220 minute named Hexanedioic acid were obtained as impurity. After excluding impurities, purity of DOTP sample was found as 99.58 %.

LEBA Company DOTP Quantity is ≥ 99 %

Responsible of Analysis
Assoc. Prof. Banu Çetin