Application Note
Date: 1992.6.23 No. 220043H-E

Determination of oleic acid in diesel fuel

Oleic acid in diesel oil was analyzed quantitatively by HPLC, utilizing pre-column derivatization method. 10 ul of pre-treated sample solution was injected. The result indicates that the diesel oil contained 0.205 g of oleic acid per liter. The preparation procedure of the sample and the chromatogram were shown below.

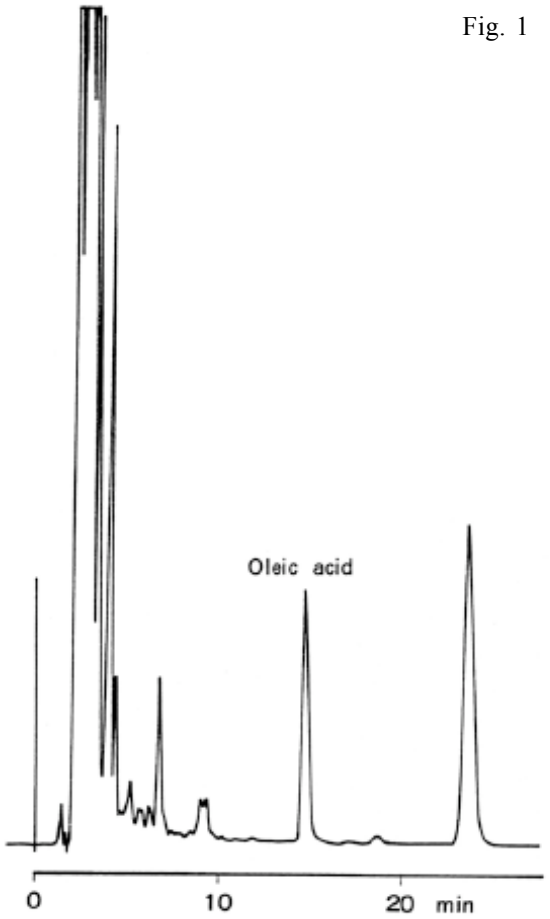
Conditions:

Pump:	PU-980
Detector :	UV-970
Wavelength :	260 nm
Sensitivity :	0.64 AUFS
Column :	Finepak SIL C18S
Eluent :	CH_3CN / H_2O (90/10)
Sample :	Light oil

Preparation procedure of sample

1 ml of light oil
↓
Apply on pre-column (silica type)
↓
Wash pre-column with n-hexane (5 ml)
↓
Elute with 2.5 ml of $CHCl_3$/MeOH (50/50)
↓
Evaporate to dryness
↓
Add 1 ml $CHCl_3$ and 20 µl of 75% KOH in MeOH
↓
Evaporate to dryness
↓
← Add 1 ml of 170 mM p-bromophenacyl bromide in acetone
← Add 1 ml of 17 mM 18-crown-6-ether in acetone
↓
React with 90 °C for 40 min
↓
Filtrate with 0.45 µm membrane filter
↓
Inject (10 µl)

Fig. 1



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