

Application Memo

Total Acid Number of Lubricant

Industry	Petrochemicals
Instrument	Automatic potentiometric titrator
Measurement method	Acid-base titration
Standards	JIS K2501, ASTM D664

1. Overview

Measurement of total acid number of lubricants is specified in JIS K 2501-2003 “Petroleum products and lubricants - Determination of neutralization number”. A test sample is usually dissolved in mixture of toluene, 2-propanol and a small amount of water, and the sample is titrated by potentiometry with 0.1mol/L potassium hydroxide + 2-propanol solution. The endpoint is obtained on the titration curve. The total acid number is calculated from the titration volume up to the endpoint.

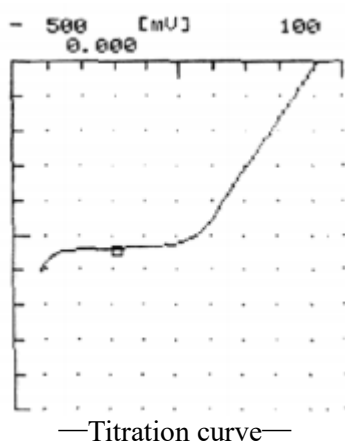
2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier STD)
Electrode	Combined glass electrode Double junction reference electrode Temperature compensation electrode

3. Reagents

Titrant	0.1mol/L potassium hydroxide + 2-propanol solution
Solvent	Toluene, Pure water, 2-propanol

4. Example



—Measurement results—

	Sample (g)	Titer (mL)	Acid number (mgKOH/g)
1	0.2176	4.3576	112.4
2	0.1936	3.8418	111.3
3	0.2086	4.1693	112.1
Average			111.9
SD			0.5
RSD(%)			0.5

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