

Application Memo

Total Acid Number of Gear Oil

Industry	Petrochemicals
Instrument	Automatic potentiometric titrator
Measurement method	Acid-base titration
Standards	JIS K2501, ASTM D664, ISO 6619

1. Overview

Measurement of total acid number of petroleum products 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.

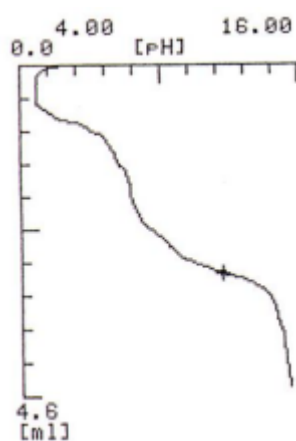
2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier STD)
Electrode	pH 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



—Titration curve—

—Measurement results—

	Sample (g)	Titer (mL)	Acid number (mgKOH/g)
1	5.0114	2.9279	3.2776
2	5.0138	2.9261	3.2756
3	5.0145	2.9326	3.2809
Average			3.2780
SD			0.0027
RSD(%)			0.082

Please feel free to contact us for any further information.
 <Contact> Kyoto Electronics Manufacturing Co., Ltd.
 Overseas Sales & Marketing Sect.
<http://www.kyoto-kem.com/en/contact/form.php>