

Application Memo

Acid Number of Transformer Oil

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

1. Overview

Measurement of acid number of transformer oil is specified in JIS K 2501 -2003 “Petroleum products and lubricants - Determination of neutralization number”.

A test sample is usually dissolved in a 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 acid number is calculated from the titration volume to the endpoint.

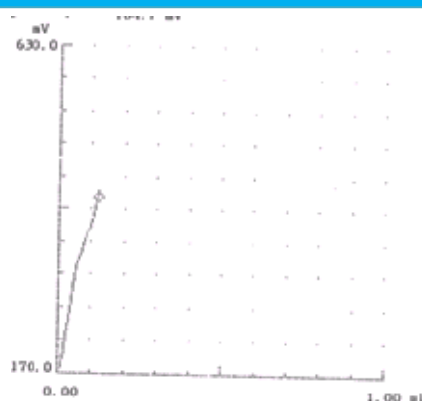
2. Apparatus

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 + ethanol solution
Solvent	Toluene, Pure water, 2-propanol

4. Example



—Titration—

-Measurement results-

	Sample (g)	Titer (mL)	Acid number (mgKOH/g)
1	20.0405	0.1242	0.00194

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