

Application Memo

Total Base Number of Oil

Industry	Petrochemicals
Instrument	Automatic potentiometric titrator
Measurement method	Acid-base titration
Standards	JIS K2501, ASTM D2896, ISO3771

1. Overview

The standard test method of total base number of petroleum products and lubricant is specified by JIS K 2501-2003 "Petroleum products and lubricants - Determination of neutralization number". The test sample is dissolved in mixture of chlorobenzene and acetic acid and titrated with 0.1mol/L perchloric acetate solution up to the endpoint.

Total base number is calculated from the titration volume of perchloric acetate.

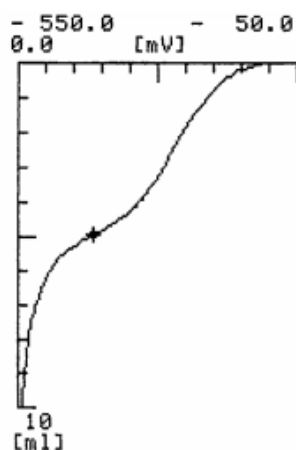
2. Apparatus

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

3. Reagents

Titrant	0.1mol/L perchloric acetic acid solution
Solvent	Chlorobenzene + Acetic acid (2+1)

4. Example



-Titration curve-

-Measurement results-

	Sample (g)	Titer (mL)	Total base number (mg/g)
1	1.9990	4.9785	13.956
2	2.0017	4.9262	13.790
3	2.0063	4.9354	13.784
4	2.0072	4.9705	13.876
5	2.0028	4.9524	13.826
Average			13.846
SD			0.071
RSD(%)			0.52

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