

Application Memo

Degree of Unsaturation in Cyclohexane

Industry	Organic chemical industry
Instrument	Automatic potentiometric titrator
Measurement method	Polarization titration
Standards	JIS K 2605

1. Overview

According to JIS K 2605-1996, the degree of unsaturation (bromine number) of cyclohexene is measured by titration with the 0.25mol/L solution of potassium bromide and potassium bromate while maintaining the temperature of the test sample dissolved in buffer at 5°C or less. The endpoint is determined by the inflexion caused by sharp polar potential change due to free iodine in titration. The bromine number is calculated from the titration volume of the solution of potassium bromide and potassium bromate.

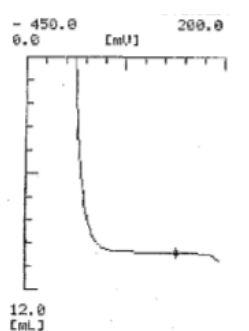
2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier POT)
Electrode	Twin platinum electrode

3. Reagents

Titrant	0.25mol/L solution of potassium bromine and potassium bromate
Solvent	Acetic acid, Toluene, Methanol, Sulfuric acid (1+5)

4. Example



—Titration curve—

—Measurement results—

	Sample (g)	Titer (mL)	Bromine number (g/100g)
1	2.0731	9.8281	18.939
2	2.0731	9.4250	18.163
3	2.0731	9.8329	18.949
4	2.0731	9.8615	19.004
5	2.0731	9.7823	18.851
Average			18.781
SD			0.350
RSD(%)			1.86

Please feel free to contact us for any further information.
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