

Application Memo

Quantitative Analysis of Epoxy Resin

Industry	Plastics & rubber
Instrument	Automatic potentiometric titrator
Measurement method	Acid-base titration
Standards	JIS K7236、ISO 3001

1. Overview

JIS K 7236-2009 specifies the test method for determination of epoxy resin equivalent. First, dissolve test sample in MEK (methyl ethyl ketone), and after adding 20% tetraethylammonium bromide in acetic acid, titrate with 0.1mol/L perchloric acetic acid up to the endpoint where the color of the 20% tetraethylammonium bromide in acetic acid or of the crystal violet acetic acid indicator changes. The epoxy equivalent is calculated from the titration volume.

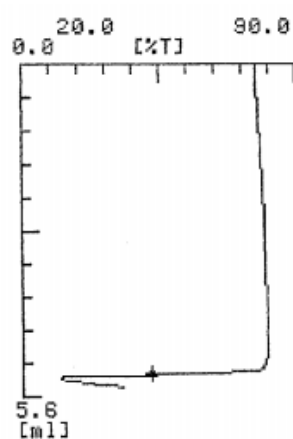
2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier PTA)
Detector	Photometric sensor Interference filter (630nm)

3. Reagents

Titrant	0.1mol/L perchloric acetic acid ($f=1.00$)
Solvent	Methyl ethyl ketone (2-butanone)
Reagent	20% tetraethylammonium bromide in acetic acid
Additive	0.1% crystal violet acetic acid

4. Example



-Titration curve-

-Measurement results-

	Sample (g)	Titer (mL)	Epoxy equivalent
1	0.1040	5.5698	186.72
2	0.0980	5.2639	186.17
3	0.1181	6.3379	186.34
Average			186.41
SD			0.28
RSD(%)			0.15

Please feel free to contact us for any further information.

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