

Application Memo

Purity of Benzalkonium Chloride

Industry	Pharmaceutical
Instrument	Automatic potentiometric titrator
Measurement method	Redox titration
Standards	Japanese pharmacopoeia codex 17

1. Overview

Benzalkonium chloride (Ammonium salt, class 4) is a bactericide. Here, its content (quantified as $C_{22}H_{40}ClN=354.02$) in a sample from commercially sold bactericide is measured according to Japanese pharmacopoeia codex 17 by potentiometric titration with 0.02mol/L sodium tetraphenylboron solution. The endpoint is determined by the maximum inflexion point on the titration curve.

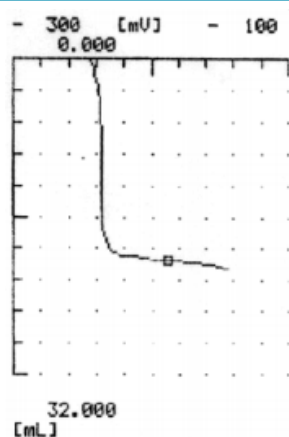
2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier STD)
Detector	Combined platinum electrode

3. Reagents

Titrant	0.02mol/L sodium tetraphenylboron solution
Additive	Diluted hydrochloric acid (1+2)

4. Example



-Titration curve-

-Measurement results-

	Sample (g)	Titer (mL)	Conc. (%)
1	0.1589	20.4143	95.51
2	0.1536	19.6518	95.11
3	0.1493	19.2010	95.61
Average			95.41
SD			0.26
RSD(%)			0.27

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