KYOTO ELECTRONICS MANUFACTURING CO., LTD.

TIQ-99336enL

Application Memo Mixture of Nitric and Acetic Acid

Industry	Inorganic chemical industry
Instrument	Automatic potentiometric titrator
Measurement method	Acid-base titration
Standards	

1. Overview

Concentration of mixture of 10% nitric acid and 10% acetic acid is measured by titration with 1mol/L sodium hydroxide. The titration goes up to two endpoints: the first EP on titration curve is for nitric acid, and the second for acetic acid.

HNO ₃	+	$NaOH \rightarrow NaNO_3$	+	H ₂ O (First EP)
CH ₃ COOH	+	$NaOH \rightarrow CH_3COONa$	+	H ₂ O (Second EP)

2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier STD)
Electrode	Combined glass electrode
	Temperature compensation electrode

3. Reagents

Titrant	l mo1/L sodium hydroxide
Solvent	Pure water

4. Example

1.00 [pH] 11.00 0.000	—Measurement results—						
		Sample	Titer (mL)		Nitric acid	Acetic acid	
		(g)	EP1	EP2	(%)	(%)	
E = X = E = E	1	5.0549	8.2626	17.0164	10.33	10.43	
	2	5.0666	8.2521	17.0293	10.29	10.43	
	3	5.1732	8.4456	17.4007	10.32	10.43	
	Average				10.31	10.43	
32.000 (ML)	SD				0.02	0.00	
[est_]	RSD(%)				0.2	0.0	

-Titration curve-

Please feel free to contact us for any further information.

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