KYOTO ELECTRONICS MANUFACTURING CO.,LTD.

TIQ-99330enL

Application Memo

Purity of Potassium Dichromate

Industry	Inorganic chemical industry
Instrument	Automatic potentiometric titrator
Measurement method	Redox titration
Standards	

1. Overview

Add excessive sulfuric acid and potassium iodide to the sample to separate free iodine and titrate the free iodine with 0.1mol/L sodium thiosulfate up to the endpoint. The endpoint is the maximum inflexion on the titration curve. The purity of potassium dichromate is calculated from the titration volume of sodium thiosulfate.

$$K_2Cr_2O_7 + 6KI + 7H_2SO_4 \rightarrow Cr_2(SO_4)_3 + 4K_2SO_4 + 7H_2O + 3I_2$$
$$I_2 + 2Na_2S_2O_3 \rightarrow 2NaI + Na_2S_4O_6$$

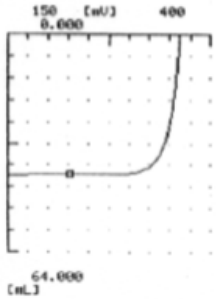
2. Apparatus

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

3. Reagents

Titrant	0.1mo1/L sodium thiosulfate
Solvent	Pure water
Additive	Potassium iodide, sulfuric acid (1+5)

4. Example



—Titration curve—

—Measurement results—

	Sample (g)	Titer (mL)	Purity (%)
1	2.0028	41.2065	100.88
2	2.0028	41.1054	100.63
3	2.0028	41.2162	100.90
Average			100.80
SD			0.15
RSD(%)			0.15

Please feel free to contact us for any further information.

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