

Application Memo

Purity of Iron Chloride (III)

Industry	Inorganic chemical industry
Instrument	Automatic potentiometric titrator
Measurement method	Redox titration
Standards	JIS K 8142

1. Overview

Purity of Iron chloride (III) hexahydrate is measured according to standard testing procedure JIS K 8142-2018 as follows: Add potassium iodide to the sample which is acidified by hydrochloric acid, and leave it in a dark room to separate free iodine. Then, titrate the free iodine with 0.1mol/L sodium thiosulfate up to the endpoint. The endpoint is the maximum inflexion on the titration curve. Purity of iron chloride is calculated from the titration volume of sodium thiosulfate.

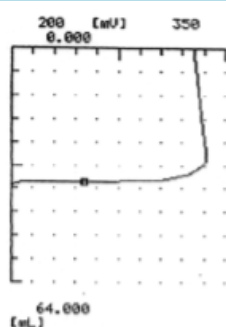
2. Apparatus

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

3. Reagents

Titrant	0.1mol/L Sodium thiosulfate
Solvent	Pure water
Additive	Hydrochloric acid (2+1), Potassium iodide

4. Example



—Titration curve—

—Measurement results—

	Sample (g)	Titer (mL)	Iron chloride (%)
1	1.0187	36.4806	97.378
2	1.0045	36.0220	97.513
3	1.0238	36.5437	97.060
Average			97.317
SD			0.233
RSD(%)			0.239

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