

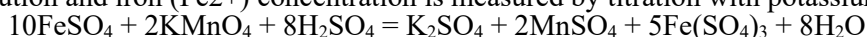
Application Memo

Iron (Fe²⁺) in Nickel Plating Solution

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

1. Overview

If the sample does not contain chlorine ion, dissolve an appropriate amount of sample in a sulfuric acid solution and iron (Fe²⁺) concentration is measured by titration with potassium permanganate.



If the sample contains chloride ions, add manganese sulfate to avoid interfering reactions. If there is too much hydrochloric acid, it is necessary to drive out most of the hydrochloric acid by vacuum evaporation and condensation.

After adding pure water and manganese sulfate solution to the sample, the iron (Fe²⁺) in nickel plating solution is measured by titration with 0.002mol/L potassium permanganate. The iron (Fe²⁺) concentration is calculated from the titration volume of potassium permanganate up to the endpoint.

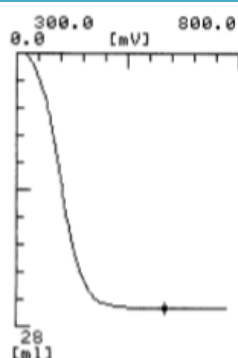
2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier STD)
Electrode	Platinum electrode Ceramic reference electrode

3. Reagents

Titrant	0.002mol/L potassium permanganate
Solvent	Pure water
Additive	Manganese sulfate solution (Manganese sulphate crystal, Phosphoric acid, Sulfuric acid, pure water)

4. Example



—Titration curve—

—Measurement results—

	Sample (mL)	Titer (mL)	Iron (g/L)
1	5.0	26.1850	2.925
2	5.0	26.1822	2.925
3	5.0	26.2078	2.927
Average			2.926
SD			0.002
RSD(%)			0.05

Please feel free to contact us for any further information.

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