

Application Memo

Hydrochloric Acid in Etchant

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

1. Overview

The concentration of hydrochloric acid (HCl) or dissolved copper in an etchant is important in quality control or intended use of iron chloride etching. The example in this test is the iron chloride etching solution titrated with the 1mol/L sodium hydroxide to determine the HCL concentration. The test result shows a good repeatability with precise data as shown below.

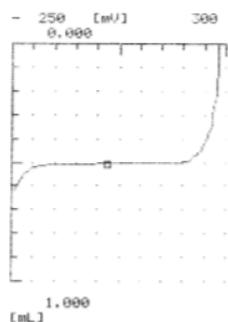
2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier STD)
Electrode	Combined glass electrode (Internal solution: 3.33M potassium chloride) Temperature compensation electrode

3. Reagents

Reagent	1mol/L sodium hydroxide solution
Solvent	Water (ion exchanged or distilled water)

4. Example



—Titration curve—

—Measurement results—

	Sample (mL)	Titer (mL)	Concentration (g/L)
1	5.0	0.5092	3.717
2	5.0	0.5085	3.712
3	5.0	0.5051	3.687
Average			3.705
SD			0.016
RSD(%)			0.43

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