

Application Memo

Malonic Acid and Boric Acid in Alloy Plating Solution

Industry	Inorganic chemical industry
Instrument	Automatic potentiometric titrator
Measurement method	Neutralization titration

1. Overview

Malonic acid concentration in the diluted sample is measured by titration with 0.1mol/L sodium hydroxide solution. The endpoint is the maximum inflexion on the titration curve. The Malonic acid concentration is calculated from the titration volume of the sodium hydroxide. After adding Mannitol, boric acid concentration is measured by titration with 0.1mol/L sodium hydroxide solution again. The endpoint is the maximum inflexion on the titration curve. The boric acid concentration is calculated from two data of titration volumes of the sodium hydroxide at the endpoints.

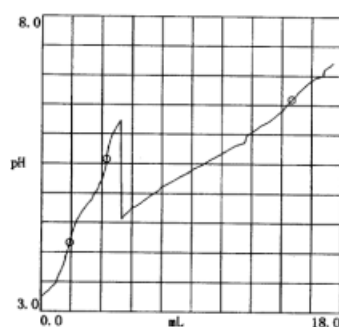
2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier STD)
Electrode	pH glass electrode Ceramic reference electrode Temperature compensation electrode

3. Reagents

Titrant	0.1mol/L sodium hydroxide solution
Additive	Mannitol

4. Example



-Measurement results-

	Malonic acid		Boric acid		
	Sample (mL)	Titer (mL)	Conc. (g/L)	Titer (mL)	Conc. (g/L)
1		1.7656	9.18	14.9593	35.31
2	2.0	1.6696	8.68	15.0740	36.26
3		1.6982	8.83	14.9885	35.82
Average			8.90		35.80
SD			0.26		0.47
RSD(%)			2.9		1.3

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