KYOTO ELECTRONICS MANUFACTURING CO., LTD.

TIQ-99062enL

Application Memo Quantitative Determination of Copper (Cu²⁺) in Solution

| Industry | Inorganic chemical industry |
|--------------------|-----------------------------------|
| Instrument | Automatic potentiometric titrator |
| Measurement method | Oxidation reduction titration |
| Standards | |

1. Overview

After adding 10% potassium iodide and acetic acid to the sample including Cu^{2+} , it is titrated with 0.1 mol / L sodium thiosulfate solution. The endpoint is the maximum inflexion on the titration curve. The copper ion concentration is calculated from the titration volume.

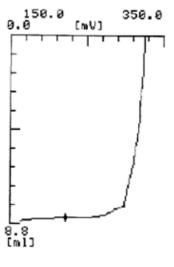
2. Apparatus

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

3. Reagents

| Titrant | 0.1mol/L sodium thiosulfate solution |
|----------|--------------------------------------|
| Solvent | Water |
| Additive | 10% potassium iodide, Acetic acid |

4. Example



| —Measurement results— | | | | | |
|-----------------------|--------|--------|---------------|--|--|
| | Sample | Titer | Concentration | | |
| | (mL) | (mL) | (g/L) | | |
| 1 | 5.0 | 8.5583 | 10.88 | | |
| 2 | 5.0 | 8.5728 | 10.90 | | |
| 3 | 5.0 | 8.5538 | 10.87 | | |
| Average | | | 10.83 | | |
| SD | | | 0.02 | | |
| RSD(%) | | | 0.2 | | |

-Titration curve-

Please feel free to contact us for any further information.

<Contact>Kyoto Electronics Manufacturing Co., Ltd.

Overseas Sales & Marketing Sect.

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