KYOTO ELECTRONICS MANUFACTURING CO.,LTD.

TIQ-96075enL

## Application Memo

# Determination of Trivalent Chromium in Nickel Plating Solution

| | |
|---|---|
| Industry | Non-ferrous metal |
| Instrument | Automatic potentiometric titrator |
| Measurement method | Oxidation reduction titration |
| Standards | |

## 1. Overview

After adding 20% sodium hydroxide and hydrogen peroxide to the diluted sample, slowly boil it and cool. After adding pure water, ammonium fluoride, 3mol/L sulfuric acid and potassium iodide to it, trivalent chromium concentration is measured by titration with the 0.1mol/L sodium thiosulfate solution. The endpoint is the maximum inflexion on the titration curve. The trivalent chromium concentration is calculated from the titration volume of sodium thiosulfate.

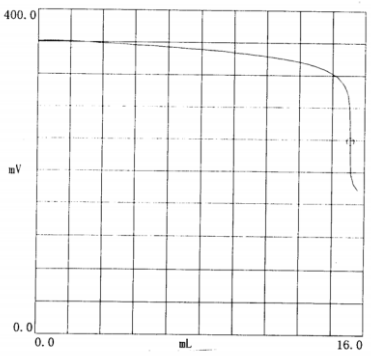
## 2. Apparatus

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

## 3. Reagents

| | |
|---|---|
| Titrant | 0.1mol/L sodium thiosulfate solution |
| Solvent | Pure water |
| Additive | 20% sodium hydroxide, Hydrogen peroxide, 3mol/L sulfuric acid (6N)<br>Ammonium fluoride, Potassium iodide |

## 4. Example




-Titration curve-

-Measurement results-

| | Concentration (g/L) |
|---|---|
| Average | 2.6696 |
| SD | 0.3763 |
| RSD(%) | 14.10 |

Please feel free to contact us for any further information.

＜Contact＞Kyoto Electronics Manufacturing Co., Ltd.
Overseas Sales & Marketing Sect.
http://www.kyoto-kem.com/en/contact/form.php