

## Application Memo

# Measurement of Aluminum Concentration in Aluminum Chloride Liquid

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

## 1. Overview

The sample to which 0.02 mol/L EDTA and sodium acetate buffer were added was heated to just before boiling, and then allowed to cool to room temperature. After adding pure water, sodium acetate buffer and the Xylenol orange indicator, it is titrated with the 0.02mol/L zinc solution. The endpoint is the maximum inflexion on the titration curve. The aluminum is calculated from the titration volume of the zinc solution.

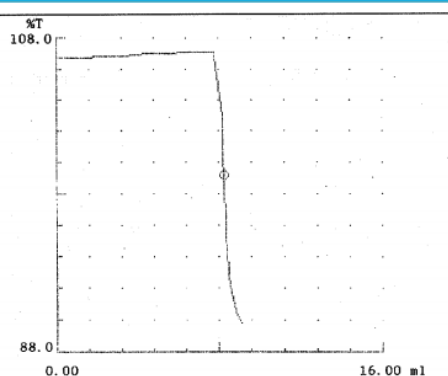
## 2. Apparatus

|           |  |
|-----------|--|
| Main unit | Automatic potentiometric titrator (preamplifier PTA) |
| Electrode | Photometric sensor<br>Interference filter (530nm)    |

## 3. Reagents

|           |  |
|-----------|--|
| Titrant   | 0.02mol/L zinc solution                |
| Solvent   | Pure water                             |
| Additive  | Sodium acetate buffer, 0.02 mol/L EDTA |
| Indicator | Xylenol orange                         |

## 4. Example



-Titration curve-

### —Measurement results—

|         | Sample<br>(g) | Titer<br>(mL) | Conc.<br>(%) |
|---------|---------------|---------------|--------------|
| 1       | 9.5304        | 8.3096        | 0.1978       |
| 2       | 9.5304        | 8.0749        | 0.1991       |
| 3       | 9.5304        | 7.9637        | 0.1998       |
| Average |               |               | 0.1989       |
| SD      |               |               | 0.0010       |
| RSD(%)  |               |               | 0.51         |

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