

## Application Memo

# Determination of Cationic Surfactant

Industry	Inorganic chemical industry
Instrument	Automatic potentiometric titrator
Measurement method	Ionic titration
Standards	

## 1. Overview

JIS K3362-2008 specifies test method for synthetic detergent. But here we demonstrate determination by using the particle changer detector unit (PCD-500) and the automatic potentiometric titrator. This method does not use toxic chloroform and indicator, and the endpoint is found automatically. This method makes use of quantitative ion association reaction and determines the endpoint by stoichiometry. The ion concentration can be obtained with good precision based on the same principle as the Epton Method. To begin with, dilute sample liquid with pure water to prepare the test sample. Transfer the prepared sample with a whole pipette, and titrate with 0.04mol/L sodium dodecyl sulfate (SDS) using PCD-500. The sudden change of streaming potential is the endpoint. The concentration of surfactant is calculated from the titration volume.

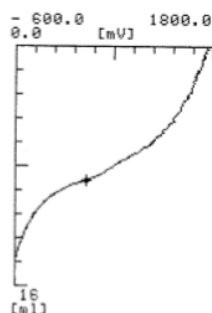
## 2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier STD) Particle changer detector unit (PCD-500)
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## 3. Reagents

Titrant	0.004mol/L sodium dodecyl sulfate (SDS)
Solvent	Distilled water

## 4. Example



—Titration curve—

—Measurement results—			
	Sample (g)	Titer (mL)	Surfactant (%)
1	22.6226	8.9745	10.759
2	22.6226	8.9287	10.704
3	22.6226	8.9979	10.787
Average			10.750
SD			.042
RSD(%)			0.39

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