



Thermo

ELECTRON CORPORATION

Potentiometric Titration Application Notes

Applications Log # 172A

Overview

The concentration of SD in aqueous solutions can be determined by titrating with Hyamine 1622 using the first derivative endpoint technique and a surfactant electrode. Hyamine 1622 is a large cationic surfactant that reacts with dodecylbenzenesulfonate and other anionic surfactants to form a fine precipitate. The surfactant electrode is ideally suited for this method because it is highly sensitive to anionic surfactants.

Industry

Species Measured Anionic Surfactant

Sample SD

Sample Size 75 mL

Typical Concentration 20 ppm

Technique # 6 First derivative

Electrode Surfactant electrode 9342BN, Double jun

Solutions Thermo Orion 0.005 M Hyamine 1622 (cat# 654201), Reference electrode fill solutions (cat# 900002, 810007)

Sample Prep Pipet 75 mL of sample into a beaker and the sample is ready for titration.

Statistics

of Trials 5 **Mean** 20.0 ppm **%CV** 2.11 %

Analysis Time 4 minute(s)

Comments Rinse the electrodes, stirrer, and dispenser probe thoroughly between measurements with deionized water.

Method Parameters

Sample Volume/Weight	50.0 mL	Timed or Stability Readings	8.0 second(s) timed
Constant Increment	0.051 mL	Number of Endpoints	1
Max Titrant Volume	10.00 mL	Desired Units	ppm - v
Molecular weight	288.38	Predose	none
Prestir	10.0 second(s)	Additional Parameters	
Reaction Ratio	1.00		