



Thermo

ELECTRON CORPORATION

Potentiometric Titration Application Notes

Applications Log # 494A

Overview

The concentration of anionic surfactant was determined by the first derivative technique utilizing Hyamine 1622 as the titrant. The Orion 960 Titrator PLUS determines the endpoint and calculates the sample concentration.

Industry

Species Measured Anionic surfactant

Sample Aqueous solution

Sample Size 1.5 g

Typical Concentration 36-42% w/w

Technique # 6 First Derivative

Electrode Surfactant electrode 9342BN, Double Jun

Solutions Reference electrode filling solution (cat# 900003), Hyamine 1622 solution 0.05M (cat# 654201).

Sample Prep Accurately weigh 1.5 g of sample in a 100 mL volumetric flask. Add deionized water to the mark and stir the solution well. Pipette a 10 mL aliquot of sample into a 150 mL beaker. Add deionized water. The sample is then ready for analysis.

Statistics

# of Trials	5	Mean	42.44%	%CV	0.36
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Analysis Time 13.0 minutes

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

Method Parameters

Sample Volume/Weight	0.15g	Timed or Stability Readings	10.0 mV/min stability
Constant Increment	0.194 mL	Number of Endpoints	1
Max Titrant Volume	6.0 mL	Desired Units	% w/w
Molecular weight	250.0 g	Predose	
Prestir	20.0 second(s) on	Additional Parameters	
Reaction Ratio	1.00		