



Thermo

ELECTRON CORPORATION

Potentiometric Titration Application Notes

Applications Log # 634B

Overview

The concentration of anionic and nonionic surfactant in liquid detergent was determined by the first derivative technique using the Orion Titrator plus and the Orion Surfactant electrode.

Industry	Liquid detergent/Hand Soap
Species Measured	Anionic Surfactant
Sample	Liquid detergent/Hand Soap
Sample Size	0.5g
Typical Concentration	0.1-20% w/w
Technique	# 6 First Derivative
Electrode	Surfactant electrode 9342BN. D-J Ref ele
Solutions	Inner/Outer fill solution 900002, 810007. Hyamine 654201. Triton 654203. HCl
Sample Prep	To sample add 100mL DI water. Titrate.

Statistics

# of Trials	3	Mean	5.21%w/w	%CV	0.08
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Analysis Time 7.9minute(s)

Comments Rinse the electrodes, stirrer, and dispenser probe between measurements with deionized water.
*Sequence procedure was run using two first derivative methods, outlined below.

Method Parameters

Sample Volume/Weight	0.5 g	Timed or Stability Readings	10.0 mV/min stability
Constant Increment	0.250 mL	Number of Endpoints	1
Max Titrant Volume	3.0 mL, 13.0 mL	Desired Units	% w/w
Molecular weight	362.00 g, 632.0 g	Predose	0.500 mL, 6.00 mL
Prestir	1.0 second(s)	Additional Parameters	
Reaction Ratio	1.00, 0.5435		