



Thermo

ELECTRON CORPORATION

Potentiometric Titration Application Notes

Applications Log # 453

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

Industry	Liquid Detergent / Hand Soap
Species Measured	Anionic surfactant
Sample	Bath soap
Sample Size	0.1 g soap
Typical Concentration	51% w/w
Technique	# 6 First Derivative
Electrode	Surfactant electrode 9342BN, Double junction electrode 900200.
Solutions	Reference electrode filling solution (cat# 900002, 900003), Hyamine 1622 solution (cat# 654201).
Sample Prep	Pipette 100 mL of deionized water into a 150 mL beaker. Heat the water to 38 degrees Celsius and add 0.1 g of soap. Stir the solution until the particles are dissolved. The sample is then ready for analysis.

Statistics

# of Trials	4	Mean	51.75%w/w	%CV	0.46
--------------------	---	-------------	-----------	------------	------

Analysis Time

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