



# Thermo

ELECTRON CORPORATION

Potentiometric Titration Application Notes

Applications Log # 342

**Overview** This anionic surfactant's concentration was determined using the first derivative titration technique with an Orion Surfactant electrode, and Hyamine 1622 as the titrant. The Orion 960 Autochemistry System determines the endpoint and calculates the concentration of active anionic surfactant in the sample.

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## **Industry**

**Species Measured** Anionic surfactant

**Sample** Paste

**Sample Size** 10 g

**Typical Concentration** 45% (w/w)

**Technique** # 6 First Derivative

**Electrode** Surfactant electrode 9342BN, Double Junction Reference electrode 900200

**Solutions** Reference electrode filling solution (cat# 810007), ORION Hyamine 1622 solution 0.05 M (cat# 654201), ORION Triton X-100 diluted (cat# 654203), Hydrochloric acid 0.05 M, deionized water.

**Sample Prep** Accurately weigh out 10 g of sample into a 200 mL volumetric flask, fill to the mark with deionized water and mix thoroughly. Pipet a 2 mL aliquot of this solution into an analysis beaker containing 50 mL of deionized water, 1 mL of diluted Triton X-100 and 1 mL of 0.05 HCl. To compensate for sample dilution, the "sample weight" entered into the method is equal to 0.01 multiplied by the weight of the sample added to the 200 mL volumetric flask.

## **Statistics**

**# of Trials** 5      **Mean** 45.0% (w/w)      **%CV** 0.16%

**Analysis Time** 4.2 minute(s)

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