Thermo
ELECTRON CORPORATION

Potentiometric Titration Application Notes Applications Log # **316**

Overview N, N-bis (2-hydroxyethyl alkyl amine concentration was determined using the first derivative titration technique with an Orion pH electrode, and perchloric acid as the titrant. The Orion 960 Autochemistry System determines the endpoint and calculates the concentration of N, N-bis alkyl amine in the sample.

Industry Plastics, Rubber, Polymers

Species Measured Alkyl Amine

Sample Polythylene

Sample Size 5.0g

Typical Concentration 1662ppm(w)

Technique # 6 First Derivative

Electrode Ross Sure-Flow Combination pH 8172BN

Solutions Deionized water; perchloric acid; glacial acetic acid; n-butyl alcohol; reagent grade methanol; potassium iodide (pellets)

Sample Prep Accurately weigh out 5 g of sample and grind to a powder if possible. Add ground sample to an analysis beaker containing 50 mL of n-butyl alcohol and stir thoroughly. After stirring, the sample may be filtered on a suction filtration assemble and the filtrate collected for analysis or the sample may be analyzed as is. This sample preparation may differ depending on user's specification of sample preparation.

Statistics

# of Trials	5	***Mean***	1661.5ppm(w)	***%CV***	1.13

Analysis Time 3.0minute(s)

Comments Rinse the electrodes, stirrer, and dispenser probe between measurements with reagent grade methanol.

Method Parameters

Sample Volume/Weight	5.1 g	***Timed or Stability Readings***	5.0 second(s) timed
Constant Increment	0.295 mL	***Number of Endpoints***	1
Max Titrant Volume	15.00 mL	***Desired Units***	ppm - w
Molecular weight	349.84 g	***Predose***	0.098 mL
Prestir	10.0 second(s)	***Addtional Parameters***	
Reaction Ratio	1.00		