



Thermo

ELECTRON CORPORATION

Potentiometric Titration Application Notes

Applications Log # 468B

Overview

The concentration of ammonia in aqueous solution was determined by the first derivative titration utilizing Hydrochloric acid as the titrant. The Orion 960 Titrator Autochemistry System determines the endpoint and calculates the sample concentration.

Industry	Chemical
Species Measured	Alkalinity (NH ₃)
Sample	Ammonia (aqueous) Solution
Sample Size	2mL
Typical Concentration	1.591%w/v
Technique	# 6 First Derivative
Electrode	Ross Combination pH 8104BN
Solutions	HCl; electrode fill 810007
Sample Prep	Accurately pipette 2 mL of sample into a 100 mL beaker. Add distilled water up to approximately the 100 mL mark. The sample is then ready for analysis.

Statistics

# of Trials	5	Mean	1.591%w/v	%CV	1.63
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Analysis Time 4.7minute(s)

Comments Rinse the electrodes, stirrer, and dispenser probe between measurements with deionized water. Due to ammonia loss, stock solution must be covered immediately after aliquot has been pipetted.

Method Parameters

Sample Volume/Weight	2.000 mL	Timed or Stability Readings	6.0 second(s) timed
Constant Increment	10.0 mV	Number of Endpoints	1
Max Titrant Volume	5.00 mL	Desired Units	%w/v
Molecular weight	17.00 g	Predose	2.00 mL
Prestir	10.0 second (s)	Additional Parameters	
Reaction Ratio	1.00		