



Thermo

ELECTRON CORPORATION

Potentiometric Titration Application Notes

Applications Log # 675

Overview

The ammonia content in AFTERSTING gel is determined on the Orion 960 Autochemistry System by multiple known addition using a 9512 ammonia electrode.

Industry	Chemical Industry
Species Measured	Ammonia
Sample	AFTERSTING gel
Sample Size	1.2-1.5 g
Typical Concentration	~1.8 ppm
Technique	# 2 Multiple Known Addition
Electrode	Ammonia electrode
Solutions	Internal Fill Solution (Cat. 951202); Ionic Strength Adjuster (ISA) (Cat. 951211); 0.1 M Ammonium Chloride Standard (Cat. 951006); DI water. Thermo Orion 960 (Cat. 096000); Ammonia electrode (Cat. 9512BN); Analytical balance; 500 ml volumet
Sample Prep	In a 150 ml glass beaker, weigh out between 1.2 and 1.5 g sample. Record the exact weight of sample. Transfer quantitatively the sample in a 500 ml volumetric flask. Dilute to mark with DI water. Mix well. 500 ml volumetric flask. Dilute to mark with DI water. Mix well.

Statistics

# of Trials	5	Mean	1.84 ppm	%CV	3.2
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Analysis Time

Comments

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

The sample solution should be prepared as possible to minimize the loss of ammonia remain very basic). The sample as well as the sample solutions should be capped at all time when not in use. If some foam forms when diluting and the adjustment to mark is difficult, weigh full capped volumetric flask. Determine the flask content weight by

Method Parameters

Sample Volume/Weight	50.0 ml	Timed or Stability Readings	3.0 mv/min
Constant Increment	18.0 mv	Number of Endpoints	
Max Titrant Volume	5.0 ml	Desired Units	ppm
Molecular weight	17	Predose	0
Prestir	1.0 sec	Additional Parameters	Lever of precision 2%; Total solution volume 51 ml.
Reaction Ratio	1.0		