



Overview

The known concentration of boric acid is determined by using sodium hydroxide as the titrant and the preset endpoint technique with an Orion pH electrode. The Orion 960 Autochemistry System determines the endpoint and calculates the concentration of boric acid in the sample.

Industry	Chemical
Species Measured	Boric Acid
Sample	Boric Acid
Sample Size	50mL
Typical Concentration	997 ppm
Technique	# 8 Preset Endpoint
Electrode	Ross sure-flow pH 8172BN
Solutions	Sodium hydroxide; electrode fill 810007; mannitol
Sample Prep	To prepare a 1000 ppm boric acid concentration, accurately weigh 1.0 g of NIST boric acid into a 1 L volumetric flask. Bring the solution to mark with ultra pure deionized water. Accurately weigh about 1 g of Mannitol into a beaker and pipette 50 mL of the boric acid solution into the same beaker. Make sure Mannitol is fully dissolved. The sample is then ready for analysis.

Statistics

of Trials 12 **Mean** 997.8; 997ppm **%CV** 0.15; 0.38

Analysis Time 4.0minute(s)

Comments A Gas Absorption Cartridge is used in order not to allow carbon dioxide into the titrant which may effect the outcome of the results. It is highly recommended that the titrant should be of the highest quality. Rinse the setup thoroughly with DI water.

Method Parameters

Sample Volume/Weight	50.0 mL	Timed or Stability Readings	6.0 second(s) timed
Constant Increment	10.0 mV	Number of Endpoints	1
Max Titrant Volume	20.00 mL	Desired Units	ppm - v
Molecular weight	61.83 g	Predose	4.00 mL
Prestir	10.0 second(s)	Additional Parameters	Preset pH = 8.50
Reaction Ratio	1.00		