



Overview

Analysis of boric acid is determined using the first derivative titration technique. NaOH titrant is added to a volume of mannitol solution containing an accurately weighed boric acid sample, and an Orion Ross combination pH electrode. The Orion 960 Autotitrator PLUS determines the endpoint and calculates the weight percent of each sample.

Industry	Chemical Industry
Species Measured	Boric Acid
Sample	Boric Acid
Sample Size	1.0g
Typical Concentration	90% w/w
Technique	# 6 First Derivative
Electrode	Ross Combination pH 8102BN
Solutions	0.5M NaOH; Electrode Fill 810007; Mannitol; Deionized water
Sample Prep	Accurately weigh about 1.0 g of boric acid into a sample beaker. Add about 50 mL of mannitol solution. Allow the prepared sample to stand for about 5 to 15 minutes before titrating. NOTE: Boric acid is a very weak acid. It can be analyzed if it is allowed to react with mannitol to form a stronger complex acid which can now be titrated with a 0.5 M NaOH titrant.

Statistics

# of Trials	10	Mean	93.58%w/w	%CV	0.32
--------------------	----	-------------	-----------	------------	------

Analysis Time 3.7minute(s)

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

Method Parameters

Sample Volume/Weight	.1g	Timed or Stability Readings	5.0 mV stability
Constant Increment	10.0mV	Number of Endpoints	1
Max Titrant Volume	5.00 mL	Desired Units	% w/w
Molecular weight	61.80 g	Predose	3.5 mL
Prestir	10.0 second(s)	Additional Parameters	
Reaction Ratio	1.00		