



Overview

The concentration of sodium in potato chips was determined by an Thermo technique called KAP Analysis. Aliquots of a sodium chloride standard are added automatically to a diluted sample containing and Orion Sodium electrode. The Orion 960 Autochemistry System calculates the sample concentration and electrode slope, and verifies the results through a spike recovery test.

Market	Food and Beverage	Species Measured	Sodium
Sample	Potato Chips	Sample Size	10.0g
		Typical Concentration	650 mg/100g
Technique #	2 Multiple Known Addition	Electrode	Ross Sure-Flow Combination sodium 8611BN
Solutions	2M NH ₄ Cl electrode fill 900010; deionized water; triton X-100; sodium STD; sodium ISA		
Sample Prep	Accurately weigh out 10.0 g of finely crushed sample into a 500 mL volumetric flask, and fill to the mark with deionized water. Mix thoroughly. Pipet a 50 mL aliquot of this solution into an analysis beaker and add 1 mL of ISA. The "sample weight" entered into the methods equal to 0.1 multiplied by the weight of potato chips added to 500 mL volumetric flask.		
Statistics			
# of Trials	4	Mean	650.75mg/100g
		%CV	0.48
		Analysis Time	1.7minute(s)
Comments	Rinse the electrodes, stirrer, and dispenser probe between measurements with deionized water.		

Method Parameters

Sample Volume/Weight	0.95 g	Timed or Stability Readings	3.0 mV/min stability
Constant Increment	18.0 mV	Number of Endpoints	1
Max Titrant Volume	10.00 mL	Desired Units	mg/100g
Molecular weight	58.45 g	Predose	none
Prestir	60.0 second(s)	Additional Parameters	Total Solution Volume = 51.00 mL, Precision = 2.0%
Reaction Ratio	1.00		