



Thermo SCIENTIFIC

Potentiometric Titration Application Notes

Applications Log # 6A

Overview

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

| | | | |
|--------------------|--|------------------------------|--------------|
| Market | Food and Beverage | Species Measured | Sodium |
| Sample | Root Beer | Sample Size | 50 mL |
| Technique # | 2 Multiple Known Addition | Typical Concentration | 15 mg/100g |
| Solutions | 1.0M NaCl w/ISA 650700; Sodium ISA 841111; 2M Ref Electrode Fill (2M NH4Cl) 900010 | | |
| Sample Prep | Accurately weigh about 50 mL of root beer into a sample beaker and add 5 mL of ISA. There is no need to degas the sample before measurement, if the sample is taken by weight. | | |
| Statistics | | | |
| # of Trials | 10 | Mean | 14.77mg/100g |
| | | %CV | 1.41 |
| | | Analysis Time | 1.0minute(s) |
| Comments | Rinse the electrodes, stirrer, and dispenser probe between measurements with deionized water. | | |

Method Parameters

| | |
|-----------------------------|------------------------------------|
| Sample Volume/Weight | Timed or Stability Readings |
| Constant Increment | Number of Endpoints |
| Max Titrant Volume | Desired Units |
| Molecular weight | Predose |
| Prestir | Additional Parameters |
| Reaction Ratio | 1 |