Hanna Titration Procedure

Salt % in Meats

Description

Method for the determination of salt (NaCl) in water, following the argentometric titration method to a mV endpoint inflection point. The results are expressed in **% Salt as Sodium Chloride (NaCl)**.

Reference

Adaptation of AOAC Official Method 935.47 Salt and AOAC 937.09.

Electrodes

- Silver Billet Combination Electrode for Halide Titration - HI5148B
- Temperature Probe - HI7662-T

Reagents

- 0.1 M AgNO3 Titrant (1 L) - HI70422
- 3.5 M KCl Electrode Fill Solution - HI7082
- 1.5 N Nitric Acid - HI70427
- Deionized Water- HI70436

Accessories

- Analytical Scale (0.001 Resolution)
- Weigh Paper
- Transfer Pipette
- 10 mL Glass Class A Pipette and Bulb
- 250 mL Beakers
- Blender
- Erlenmeyer Flask
- Filter Paper
- Funnel
- Class A Graduated Cylinder

Device Preparation

- Connect the electrode to the titrator.
- Press "Select Method" from the main screen. Use the arrow keys to highlight the '% Salt' method and press "Select".
- Install a 25-mL burette with 0.1M $AgNO_3$ (HI70422) on pump one and verify that no air bubbles are present in the burette or tubing. If necessary, prime the burette until all the air has been removed completely.
  For the determination of the exact concentration of the 0.1M $AgNO_3$, follow HI0202EN 0.1M 0.1M Silver Nitrate Titrant Concentration.

Electrode Preparation

- Remove the storage cap.
- Rinse the electrode with deionized water.
- Unscrew the fill cap.
- Fill the electrode to within 2cm of the fill hole with the HI7082 electrolyte fill solution.
- Connect the silver billet electrode and temperature probe to analog board 1.
- Replace the fill hole cap on the electrode, but do not screw it back in all the way. (If you have issues with the screw cap falling off, you can remove it for the duration of the titration).

Sample Preparation

- Weigh 25.00 g of sample directly on a clean piece of paper. (Record the weight, so you can enter it into the titrator later).
- Measure out exactly 475 mL of deionized water using a Class A Graduated Cylinder.
- Pour the 475 mL of deionized water into the blender, and add the 25.00 g of meat.
- Using the Class A pipette, aliquot 10 mL of 1.5 N nitric acid to the blender.
- Blend the product until the meat, water, and acid have become a slurry.
- Place a funnel in the Erlenmeyer flask and place the filter paper in.

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- Pour your blended product slurry into the funnel and allow it to filter.
- Aliquot 10 mL of the filtered sample using the Eppendorf pipette into a clean 250 mL beaker.
- Bring the beaker up to volume with deionized water so the probes will be properly submerged.

Analysis

- Place the beaker under the stirrer assembly and lower it to immerse the electrode, temperature probe, and stirrer*. Ensure that the sensing portion of the electrode is 5-6 mm below the surface. **NOTE:** The dispensing tip should be in contact with the surface of the sample (slightly submerged).
- Press "Start". The titrator will start the analysis.
  NOTE: You may need to input the mass of your sample prior to the start of the titration.
- At the end of titration, when the equivalence point is reached, 'titration complete' will appear with the % Salt concentration. The result is expressed in **% Salt (g/100g)**.
- Remove the electrode, temperature probe, and stirrer from the sample and rinse them thoroughly with deionized water.
- Record the result.

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