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Sodium Iodide

NaI 149.89

Sodium iodide CAS RN®: 7681-82-5; UNII: F5WR8N145C.

DEFINITION

Sodium Iodide contains NLT 99.0% and NMT 101.5% of NaI, calculated on the anhydrous basis.

IDENTIFICATION

- **A. Identification Tests—General, *Sodium*⟨191⟩**

  Sample solution: 50 mg/mL

  Acceptance criteria: Meets the requirements

- **B. Identification Tests—General, *Iodide*⟨191⟩**

  Sample solution: 50 mg/mL

  Acceptance criteria: Meets the requirements

ASSAY

- **Procedure**

  Sample: 500 mg

  Analysis: Dissolve the *Sample* in 10 mL of water. Add 35 mL of hydrochloric acid, and titrate with 0.05 M potassium iodate VS until the dark brown solution that is produced becomes pale brown. Add 1 mL of amaranth TS, and continue the titration slowly until the red color just changes to yellow. Each mL of 0.05 M potassium iodate is equivalent to 14.99 mg of NaI.

  Acceptance criteria: 99.0%–101.5% on the anhydrous basis

IMPURITIES

- **Iodate**

  Iodate solution: Dilute 1 mL of potassium iodate solution (1 in 2500) with water to 100 mL.

  Standard solution: Dissolve 100 mg of Sodium Iodide in ammonia- and carbon dioxide-free water and add 1 mL of *Iodate solution* to obtain 10 mL of solution. Transfer to a color-comparison tube.

  Sample solution: Dissolve 1.1 g in sufficient ammonia- and carbon dioxide-free water to obtain 10 mL of solution. Transfer to a color-comparison tube.

  Analysis: To each color comparison tube add 1 mL of starch TS and 0.25 mL of 1.0 N sulfuric acid, and mix.

  Acceptance criteria: Any color produced in the *Sample solution* does not exceed that in the *Standard solution* (NMT 4 ppm).

- **Thiosulfate and Barium**

  Sample solution: Dissolve 0.5 g in 10 mL of ammonia- and carbon dioxide-free water.

  Analysis: Add 2 drops of 2 N sulfuric acid to the *Sample solution*.

  Acceptance criteria: No turbidity develops within 1 min.

- **Potassium**

  Sample solution: Dissolve 1.0 g in 2 mL of water.

  Acceptance criteria: The *Sample solution* yields no precipitate with 1.0 mL of sodium bitartrate TS.

- **Limit of Nitrate, Nitrite, and Ammonia**

  Sample solution: Dissolve 1.0 g in 5 mL of water.

  Analysis: To the *Sample solution* contained in a test tube of 40-mL capacity add 5 mL of 1 N sodium hydroxide and about 200 mg of aluminum wire. Insert a pledget of purified cotton in the upper portion of the test tube, and place a piece of moistened red litmus paper over the mouth of the tube. Heat the test tube and its contents on a steam bath for 15 min.

  Acceptance criteria: No blue coloration of the paper is discernible.

SPECIFIC TESTS

- **Alkalinity**

  Sample solution: Dissolve 1.0 g in 10 mL of water.

  Analysis: Add 0.15 mL of 0.10 N sulfuric acid and 1 drop of phenolphthalein TS to the *Sample solution*.

  Acceptance criteria: No red color is produced.

- **Water Determination, *Method I*⟨921⟩:** NMT 2.0%

ADDITIONAL REQUIREMENTS

- **Packaging and Storage:** Preserve in tight containers.

Auxiliary Information - Please check for your question in the FAQs before contacting USP.

Topic/Question	Contact	Expert Committee
SODIUM IODIDE	Documentary Standards Support	SM52020 Small Molecules 5
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SM52020 Small Molecules 5

Chromatographic Database Information: Chromatographic Database

Most Recently Appeared In:
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