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Potassium Iodide

KI 166.00

Potassium iodide CAS RN®: 7681-11-0; UNII: 1C4QK22F9J.

DEFINITION

Potassium Iodide contains NLT 99.0% and NMT 101.5% of KI, calculated on the dried basis.

IDENTIFICATION

- **A. Identification Tests—General, *Potassium*⟨191⟩:** Meets the requirements
- **B. Identification Tests—General, *Iodide*⟨191⟩:** Meets the requirements

ASSAY

- **Procedure**

Sample solution: Dissolve 500 mg of Potassium Iodide in 10 mL of water.

Analysis: Add 35 mL of hydrochloric acid to the *Sample solution*, and titrate with 0.05 M potassium iodate VS until the dark brown solution that is produced becomes pale brown. Add 2–3 drops 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 16.60 mg of KI.

Acceptance criteria: 99.0%–101.5% on the dried 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 Potassium 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, add 1 mL of starch TS and 0.25 mL of 1.0 N sulfuric acid, and mix.

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, 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 produced in the *Standard solution* (NMT 4 µg/g).

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

Sample solution: Dissolve 1 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 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 in a steam bath for 15 min.

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

- **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.

Acceptance criteria: No turbidity develops within 1 min.

SPECIFIC TESTS

- **Alkalinity**

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

Analysis: Add 0.1 mL of 0.1 N sulfuric acid and 1 drop of phenolphthalein TS to the *Sample solution*.

Acceptance criteria: No color is produced.

- **Loss on Drying ⟨731⟩:** Dry a sample at 105° for 4 h: it loses NMT 1.0% of its weight.

ADDITIONAL REQUIREMENTS

- **Packaging and Storage:** Preserve in well-closed containers.

Topic/Question	Contact	Expert Committee
POTASSIUM IODIDE	Documentary Standards Support	SM12020 Small Molecules 1
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SM12020 Small Molecules 1

Chromatographic Database Information: Chromatographic Database

Most Recently Appeared In:
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