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Iodine Tincture

DEFINITION

Iodine Tincture contains NLT 1.8 g and NMT 2.2 g of iodine (I) and NLT 2.1 g and NMT 2.6 g of sodium iodide (NaI) in each 100 mL. Prepare Iodine Tincture as follows.

Iodine	20 g
Sodium Iodide	24 g
Alcohol	500 mL
Purified Water, a sufficient quantity to make	1000 mL

Dissolve *Iodine* and *Sodium Iodide* in *Alcohol*. Add *Purified Water* to bring to final volume.

IDENTIFICATION

• A.

Analysis: Add 1 drop to a mixture of 1 mL of starch TS and 9 mL of water.

Acceptance criteria: A deep blue color is produced.

• B. [IDENTIFICATION TESTS—GENERAL \(191\), Iodide](#)

Sample: Evaporate a few milliliters on a steam bath to dryness.

Acceptance criteria: The residue meets the requirements of the test for *Iodide*.

• C. **SODIUM:** The *Sample* obtained in *Identification B* imparts an intense yellow color to a nonluminous flame.

ASSAY

• **IODINE**

Sample: 10 mL

Titrimetric system

Mode: Direct titration

Titrant: 0.1 N sodium thiosulfate VS

Endpoint detection: Visual

Analysis: Transfer the *Sample* into a glass-stoppered 500-mL flask, and dilute with 10 mL of water. Titrate with *Titrant*, adding 3 mL of starch TS as the endpoint is approached. Each milliliter of *Titrant* is equivalent to 12.69 mg of iodine (I).

Acceptance criteria: 1.8–2.2 g in 100 mL of Tincture

• **SODIUM IODIDE**

Sample: 10 mL

Titrimetric system

Mode: Direct titration

Titrant: 0.05 M potassium iodate VS

Endpoint detection: Visual

Analysis: Transfer the *Sample* into a glass-stoppered 500-mL flask, add 30 mL of water and 50 mL of hydrochloric acid, cool to room temperature, and titrate with *Titrant* 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. The difference in volume, in milliliters, between the *Titrant* used and half the volume of the 0.1 N sodium thiosulfate used in the Assay for *Iodine*, multiplied by 14.99, represents the number of milligrams of sodium iodide (NaI) in the portion of Tincture taken.

Acceptance criteria: 2.1–2.6 g in 100 mL of Tincture

OTHER COMPONENTS

- [ALCOHOL DETERMINATION \(611\)](#): 44.0%–50.0%

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Package in tight containers.

Auxiliary Information - Please [check for your question in the FAQs](#) before contacting USP.

Topic/Question	Contact	Expert Committee
IODINE TINCTURE	Brian Serumaga Science Program Manager	CMP2020 Compounding 2020

Chromatographic Database Information: [Chromatographic Database](#)

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