



Edition: BP 2025 (Ph. Eur. 11.6 update)

Iodine



[General Notices](#)

(Ph. Eur. monograph 0031)

I₂ 253.8 7553-56-2

Action and use

Antiseptic; antithyroid.

Preparations

[Alcoholic Iodine Solution](#)

[Aqueous Iodine Oral Solution](#)

[Povidone-Iodine Eye Drops](#)

[Povidone-Iodine Mouthwash](#)

[Povidone-Iodine Solution](#)

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DEFINITION

Content

99.5 per cent to 100.5 per cent of I.

CHARACTERS

Appearance

Greyish-violet, brittle plates or fine crystals with a metallic sheen.

Solubility

Very slightly soluble in water, very soluble in concentrated solutions of iodides, soluble in ethanol (96 per cent), slightly soluble in glycerol.

It volatilises slowly at room temperature.

IDENTIFICATION

A. Heat a few fragments in a test-tube. Violet vapour is evolved and a bluish-black crystalline sublimate is formed.

B. To a saturated solution add [starch solution R](#). A blue colour is produced. Heat until decolourised. On cooling, the colour reappears.

TESTS

Solution S

Triturate 3.0 g with 20 mL of [water R](#), filter, wash the filter with [water R](#) and dilute the filtrate to 30 mL with the same solvent. To the solution add 1 g of [zinc powder R](#). When the solution is decolourised, filter, wash the filter with [water R](#) and dilute to 40 mL with the same solvent.

Bromides and chlorides

Maximum 250 ppm.

To 10 mL of solution S add 3 mL of [ammonia R](#) and 6 mL of [silver nitrate solution R2](#). Filter, wash the filter with [water R](#) and dilute the filtrate to 20 mL with the same solvent. To 10 mL of the solution add 1.5 mL of [nitric acid R](#). After 1 min, any opalescence in the solution is not more intense than that in a standard prepared at the same time by mixing 10.75 mL of [water R](#), 0.25 mL of [0.01 M hydrochloric acid](#), 0.2 mL of [dilute nitric acid R](#) and 0.3 mL of [silver nitrate solution R2](#).

Non-volatile substances

Maximum 0.1 per cent.

Heat 1.00 g in a porcelain dish on a water-bath until the iodine has volatilised. Dry the residue at 100-105 °C. The residue weighs a maximum of 1 mg.

ASSAY

Introduce 0.200 g into a flask containing 1 g of [potassium iodide R](#) and 2 mL of [water R](#) and add 1 mL of [dilute acetic acid R](#). When dissolution is complete, add 50 mL of [water R](#) and titrate with [0.1 M sodium thiosulfate](#), using [starch solution R](#) as indicator.

1 mL of [0.1 M sodium thiosulfate](#) is equivalent to 12.69 mg of I.

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