

POTASSIUM IODATE

Prepared at the 33rd JECFA (1988), published in FNP 38 (1988) and in FNP 52 (1992). Metals and arsenic specifications revised at the 63rd JECFA (2004). Use not recommended as Flour treatment agent 9th JECFA (1965)

SYNONYMS INS No. 917

DEFINITION

Chemical names Potassium iodate

C.A.S. number 7758-05-6

Chemical formula KIO_3

Formula weight 214.02

Assay Not less than 99.0% and not more than 101.0% on the dried basis

DESCRIPTION White, odourless crystalline powder

FUNCTIONAL USES Flour treatment agent, oxidizing agent

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4) Soluble in water; insoluble in ethanol

Test for potassium
(Vol. 4) Passes test

Test for iodate To a 1 in 20 solution of the sample add one drop of starch TS and a few drops of 20% hypophosphorous acid. A transient blue colour appears

PURITY

Loss on drying (Vol. 4) Not more than 0.5% (150°, 3 h)

Acidity or alkalinity Dissolve by warming 5 g of the sample in 40 ml of freshly boiled and cooled water, cool and add 3 drops of phenol- phthalein TS; observe colour: If the solution is pink, add 0.4 ml of 0.01 N hydro chloric acid. The pink colour disappears.

If the solution is colourless, add 1.2 ml of 0.01 N sodium hydroxide. The solution turns pink.

Lead (Vol. 4) Not more than 2 mg/kg
Determine using an atomic absorption technique appropriate to the specified level. The selection of sample size and method of sample preparation may be based on the principles of the method described in Volume 4, "Instrumental Methods."

**METHOD OF
ASSAY**

Weigh accurately about 100 mg of the sample, previously dried at 105° for 3 h, and dissolve in 50 ml of water contained in a 250 ml glass-stoppered conical flask. Add 3 g of potassium iodide, followed by 3 ml of dilute hydrochloric acid (3 in 10), and stopper the flask. Allow the mixture to stand for 5 min., add 100 ml of cold water, and titrate the liberated iodine with 0.1 N sodium thiosulfate, adding starch TS as the end-point is approached. Perform a blank determination. Each ml of 0.1 N sodium thiosulfate is equivalent to 3.567 mg of KIO_3 .