POTASSIUM NITRITE

Prepared at the 44th JECFA (1995), published in FNP 52 Add 3 (1995) superseding specifications prepared at the 20th JECFA (1976), published in FNP 4 (1978) and in FNP 52 (1992). Metals and arsenic specifications revised at the 63rd JECFA (2004). An ADI of 0-0.06 mg/kg bw was established at 44th JECFA (1995). Nitrite should not be used for infants below 3 months

SYNONYMS INS No. 249

DEFINITION

Chemical names	Potassium nitrite
C.A.S. number	7758-09-0
Chemical formula	KNO_2
Formula weight	85.10
Assay	Not less than 95.0% on the dried basis

DESCRIPTION Small, white or slightly yellow, deliquescent granules or rods

FUNCTIONAL USES Antimicrobial preservative, colour fixative

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4)	Freely soluble in water, sparingly soluble in ethanol
Test for potassium (Vol. 4)	Passes test
Test for nitrite (Vol. 4)	Passes test

PURITY

Loss on drying (Vol. 4)	Not more than 3% (over silica gel, 4 h)
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, to the nearest mg, 1 g of the sample, previously dried over silica gel for 4 h. Transfer to a 100 ml volumetric flask and dissolve in water diluting to the mark. Pipette 10.0 ml of this solution into a mixture of 50.0 ml of 0.1N potassium permanganate, 100 ml of water and 5 ml of sulfuric acid, keeping the tip of the pipette well below the surface of the liquid. Warm the solution

to 40º, allow it to stand for 5 min and add 25.0 ml of 0.1N oxalic acid. Heat the mixture to about 80º and titrate with 0.1N potassium permanganate.

$$\% \ KNO_2 = \frac{(25 + X)}{W} \ x \ 4.256$$

where
X = ml of 0.1N potassium permanganate used for titration
W = weight (in grams) of the sample.