SODIUM THIOCYANATE

Prepared at the 44th JECFA (1995), published in FNP 52 Add 3 (1995) superseding specifications prepared at the 28th JECFA (1984), published in FNP 31/2 (1984). Metals and arsenic specifications revised at the 63rd JECFA (2004). No ADI was allocated the 29thJECFA (1986)

SYNONYMS Sodium sulfocyanate, sodium rhodanide

DEFINITION

Chemical names	Sodium thiocyanate
C.A.S. number	540-72-2
Chemical formula	NaSCN
Structural formula	Na^+ S-CN^-
Formula weight	84.1
Assay	Not less than 99.0%

DESCRIPTION Colourless, deliquescent crystals

FUNCTIONAL USES Preservative

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4)	Freely soluble in water, freely soluble in ethanol and acetone
pH (Vol. 4)	5.5 - 8.5 (1 in 20 soln)
Test for sodium (Vol. 4)	Passes test

PURITY

Acidity or alkalinity	Not more than 1 ml of 0.1N sodium hydroxide (if initially acid) or not more than 1 ml of 0.1N hydrochloric acid (if initially alkaline) is required to neutralize a solution containing 5 g of the sample, 10 ml of water and 0.2 ml of phenolphthalein TS.
Sulfates (Vol. 4)	Not more than 50 mg/kg Test 2 g of the sample as directed in the Limit Test using 0.2 ml of 0.01N sulfuric acid in the control
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.”

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METHOD OF ASSAY

Dissolve about 1 g of the sample, accurately weighed in water in a volumetric flask and dilute to 100 ml. Place this solution in a burette. Place in a 250-ml conical flask 10 ml of 0.1N silver nitrate, add 5 ml of dilute nitric acid TS and 2 ml of ferric ammonium sulfate TS. Titrate with the sample solution until a reddish yellow colour is obtained. 10 ml of $AgNO_3$ is equivalent to 84.1 mg of NaSCN.