# CYCLOHEXYLSULFAMIC ACID

*Prepared at the 46th JECFA (1996), published in FNP 52 Add 4 (1996) superseding specifications prepared at the 24th JECFA (1980), published in FNP 17 (1980) and in FNP 52 (1992). Metals and arsenic specifications revised at the 57th JECFA (2001). A group ADI of 0-11 mg/kg bw for cyclamic acid and its calcium and sodium salts (as cyclamic acid) was established at the 26th JECFA (1982)*

**SYNONYMS** Cyclamic acid, INS No. 952

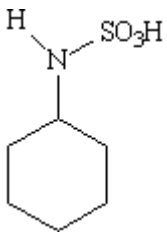
**DEFINITION**

Chemical names Cyclohexylsulfamic acid, cyclohexanesulfamic acid

C.A.S. number 100-88-9

Chemical formula $C_6H_{13}NO_3S$

Structural formula




Formula weight 179.24

Assay Not less than 98.0% and not more than 102.0% on the dried basis

**DESCRIPTION** Practically colourless, white crystalline powder

**FUNCTIONAL USES** Sweetener

**CHARACTERISTICS**

IDENTIFICATION

Solubility (Vol. 4) Soluble in water, and in ethanol

Precipitate formation Acidify a 2% solution with hydrochloric acid, add 1 ml of barium chloride TS and filter if any haze or precipitate forms. To the clear solution add 1 ml of a 10% solution of sodium nitrite. A white precipitate forms.

PURITY

Loss on drying (Vol. 4) Not more than 1.0% (105º, 1 h)

Cyclohexylamine (Vol. 4) Not more than 10 mg/kg
Transfer 25 g of the sample into a 100 ml volumetric flask containing 20 ml of water, mix, and add 60 ml of sodium hydroxide TS. Add sodium hydroxide TS, if necessary, to make the solution alkaline to litmus. Dilute to

volume with water, and mix. Use this solution as the test preparation.

Dicyclohexylamine (Vol. 4) — Not more than 1 mg/kg

Lead (Vol. 4) — Not more than 1 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**

Transfer about 350 mg, accurately weighed, into a 250 ml flask. Dissolve the sample in 50 ml of water, add phenolphthalein TS, and titrate with 0.1N sodium hydroxide. Each ml of 0.1N sodium hydroxide is equivalent to 17.82 mg of $C_6H_{13}NO_3S$.