

CHOLIC ACID

Prepared at the 17th JECFA (1973), published in FNP 4 (1978) and in FNP 52 (1992). Metals and arsenic specifications revised at the 55th JECFA (2000). An ADI of 0-1.25 mg/kg bw was established at the 17th JECFA (1973)

SYNONYMS

INS No. 1000

DEFINITION

Chemical names

Cholic acid, 3 α ,7 α ,12 α -trihydroxy-5 β -cholan-24-oic acid, 3,7,12-trihydroxycholan-24-oic acid

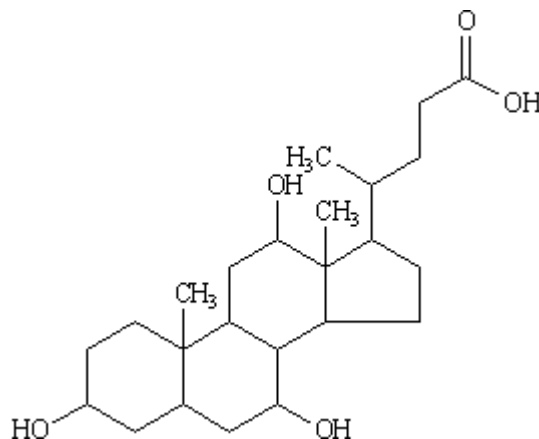
C.A.S. number

81-25-4

Chemical formula

C₂₄H₄₀O₅

Structural formula



Formula weight

408.58

Assay

Not less than 98% after drying

DESCRIPTION

Colourless plates or a white crystalline powder

FUNCTIONAL USES

Emulsifier

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4)

Very slightly soluble in water, soluble in ethanol

Melting range (Vol. 4)

197 - 202°

Colour reactions

To 1 ml of a 0.02% solution of cholic acid in 50% acetic acid, add 1 ml of a 1% solution of furfural in water, 6 ml water and 5 ml concentrated sulfuric acid. The mixture turns rose and then violet within 5 min. (The same colour is produced by desoxycholic acid).

To about 10 mg of cholic acid add 2 drops of benzaldehyde and 3 drops of 75% sulfuric acid and heat at 50° for 5 min. Then add about 10 ml of glacial acetic acid; a brown colour is produced (desoxycholic acid gives a green colour).

PURITY

Loss on drying (Vol. 4) Not more than 0.5% (140°, 4 h, pressure less than 5 mm of mercury)

Specific rotation (Vol. 4) $[\alpha]_D^{25}$: Not less than + 37° (2% (w/v) solution in ethanol)

Sulfated ash (Vol. 4) Not more than 0.1%
Test 2 g of the sample

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

Transfer about 400 mg of the dried sample, accurately weighed, into a 250-ml flask, add 20 ml of water and 40 ml of ethanol, cover with a watch glass, heat gently on a steam bath until dissolved and cool. Add 5 drops of phenolphthalein TS and titrate with 0.1 N sodium hydroxide to the first pink colour that persists for 15 sec. Perform a blank determination and make any necessary corrections. Each ml of 0.1 N sodium hydroxide is equivalent to 40.86 mg of $C_{24}H_{40}O_5$.