

DESOXYCHOLIC 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

Deoxycholic acid

DEFINITION

Chemical names

Deoxycholic acid, 3 α ,12 α -dihydroxy-5 β -cholan-24-oic acid, 3,12-dihydroxycholanic acid

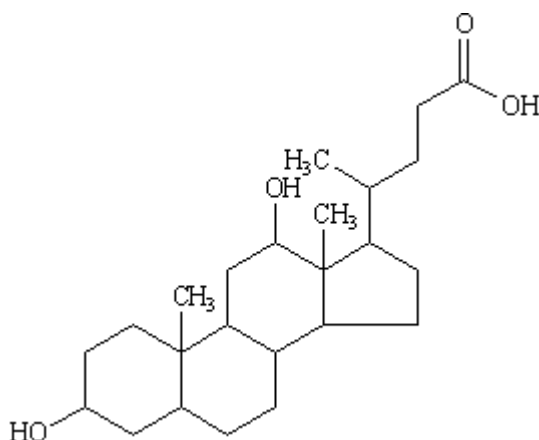
C.A.S. number

83-44-3

Chemical formula

C₂₄H₄₀O₄

Structural formula



Formula weight

392.58

Assay

Not less than 98% and not more than the equivalent of 102% after drying. The article of commerce may be further specified as to cholic acid content.

DESCRIPTION

White crystalline powder

FUNCTIONAL USES

Emulsifier

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4)

Very slightly soluble in water, soluble in ethanol

Melting range (Vol. 4)

172 - 176°

Colour reactions

To 1 ml of a 0.02% solution of the sample 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 blue within 5 min. (The same colour is produced by cholic acid).

To about 10 mg of the sample 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 green colour is produced (cholic acid gives a brown colour).

PURITY

Loss on drying (Vol. 4) Not more than 1% (140°, 4 h, pressure not exceeding 5 mm of mercury)

Specific rotation (Vol. 4) $[\alpha]_{25, D}$: Not less than + 55° (1% (w/v) solution in ethanol)

Sulfated ash (Vol. 4) Not more than 0.2%
Test 1 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 500 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 39.26 mg of $C_{24}H_{40}O_4$.