

ASCORBYL PALMITATE

Prepared at the 17th JECFA (1973), published in FNP 4 (1978) and in FNP 52 (1992). Metals and arsenic specifications revised at the 61st JECFA (2003)
An ADI of 0-1.25 mg/kg bw was established at the 17th JECFA (1973)

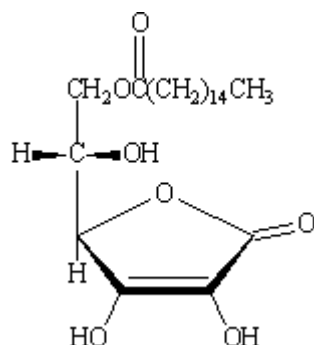
SYNONYMS Vitamin C palmitate; INS No. 304

DEFINITION

Chemical names Ascorbyl palmitate; L-ascorbyl palmitate; 2,3-didehydro-L-threo-hexono-1,4-lactone-6-palmitate; 6-palmitoyl-3-keto-L-gulofuranolactone

Chemical formula $C_{22}H_{38}O_7$

Structural formula



Formula weight 414.55

Assay Not less than 95% on the dried basis

DESCRIPTION White or yellowish-white solid, with a citrus-like odour

FUNCTIONAL USES Antioxidant

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4) Very slightly soluble in water; freely soluble in ethanol

Melting range (Vol. 4) $107^{\circ} - 117^{\circ}$

Reducing reaction A solution of the sample in ethanol will decolourize a solution of 2,6-dichlorophenol-indophenol TS (see Volume 4)

PURITY

Loss on drying (Vol.4) Not more than 2% (vacuum oven, $56 - 60^{\circ}$, 1 h)

Specific rotation (Vol. 4) $[\alpha]_{25, D}$: Between $+21^\circ$ and $+24^\circ$ (10% (w/v) soln)

Sulfated ash (Vol. 4) Not more than 0.1%

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

Add 0.800 g of the sample to a mixture of 50 ml of carbon dioxide-free water, 50 ml of chloroform and 25 ml of dilute sulfuric acid TS. Titrate the mixture at once with 0.1 N iodine making sure that the mixture is well shaken. Add a few drops of starch TS as indicator as the end point is approached. Each ml 0.1 N iodine is equivalent to 20.73 mg of $C_{22}H_{38}O_7$.