SORBITAN MONOSTEARATE

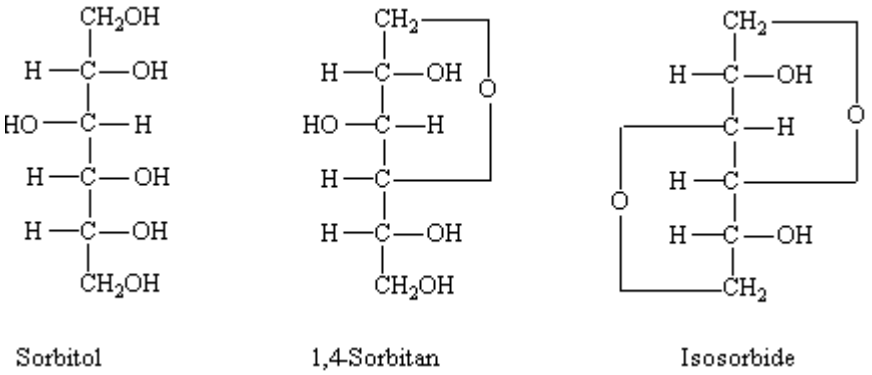
Prepared at the 17th JECFA (1973), published in FNP 4 (1978) and in FNP 52 (1992). Metals and arsenic specifications revised at the 55th JECFA (2000). A group ADI of 0-25 mg/kg bw as the sum of sorbitan esters of lauric, oleic, palmitic and stearic acids was established at the 26th JECFA (1982)

SYNONYMS INS No. 491

DEFINITION A mixture of the partial esters of sorbitol and its mono- and dianhydrides with edible stearic acid

C.A.S. number 1338-41-6

Structural formula Contains palmitic acid esterified with polyols derived from sorbitol including the following types:



Sorbitol 1,4-Sorbitan Isosorbide

Assay Saponification of 100 g of the sample yields approximately 31.5 g of polyols and 73 g of fatty acid. The polyol content shall be not less than 95% of a mixture of sorbitol, 1,4-sorbitan and isosorbide

DESCRIPTION Light cream to tan beads or flakes or hard, waxy solid with a slight characteristic odour

FUNCTIONAL USES Emulsifier

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4) Soluble at temperatures above its melting point in toluene, dioxane, carbon tetrachloride, ether, methanol, ethanol and aniline; insoluble in petroleum ether and acetone; insoluble in cold water but dispersible in warm water; soluble with haze at temperatures above 50° in mineral oil and ethyl acetate.

Congealing range (Vol. 4) 50 - 52°

Infrared absorption The infrared spectrum of the sample is characteristic of a partial fatty acid ester of a polyol

PURITY

Water (Vol. 4)	Not more than 1.5% (Karl Fischer Method)
Acid value (Vol. 4)	Not less than 5 and not more than 10
Saponification value (Vol. 4)	Not less than 147 and not more than 157
Hydroxyl value (Vol. 4)	Not less than 235 and not more than 260
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	Proceed as directed under the *Sorbitan Ester Content* (Volume 4)