PRODUCT DATA SHEET

Octadecanoic acid

Catalog number: 1020
Common Name: Stearic acid; C18:0 Fatty acid
Source: natural, plant
Solubility: chloroform, alcohols, ethyl ether
CAS number: 57-11-4
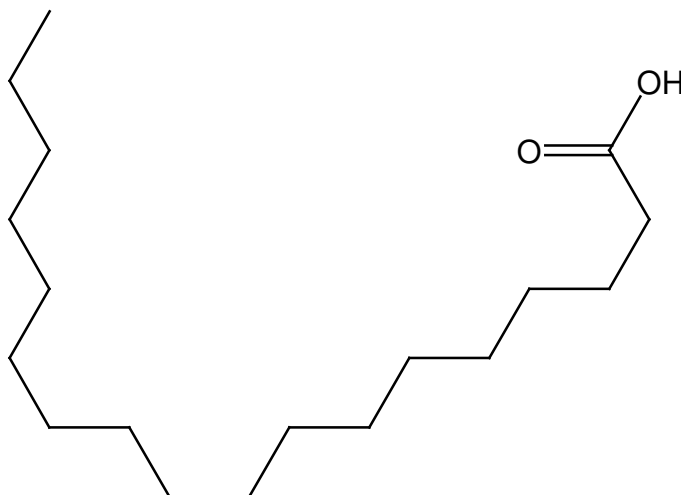
Molecular Formula: $C_{18}H_{36}O_2$
Molecular Weight: 284
Storage: room temperature
Purity: TLC: 99%, GC >99%
TLC System: hexane/ethyl ether/acetic acid
(85:15:1 by vol.)
Appearance: solid

Application Notes:

Stearic acid is the second most abundant fatty acid in nature and among the most abundant fatty acids in most animals as well as in some plants and bacteria. It has many biological functions as well as many pharmaceutical and industrial uses. In gangliosides it is especially prevalent, comprising as much as 80% of the total fatty acids present. A large amount of stearic acid is used as the precursor for oleic acid via the *delta*-9-desaturase enzyme. It has recently been proposed that stearic acid causes a lower risk of cardiovascular disease than other saturated fatty acids.[1] Stearic acid has been extensively used to aid in the delivery mechanisms of various therapeutical agents.[2,3]

Selected References:

1. J. Hunter, J. Zhang, and P. Kris-Etherton "Cardiovascular disease risk of dietary stearic acid compared with *trans*, other saturated, and unsaturated fatty acids: a systematic review" *Am J Clin Nutr*, vol. 91 pp. 46-63, *2010*
2. H. Uludag et al. "Formulation and Delivery of siRNA by Oleic Acid and Stearic Acid Modified Polyethylenimine" *Mol. Pharmaceuticals*, vol. 6 pp. 121-133, *2009*
3. Y-Z. Du et al "Shell cross-linked stearic acid grafted chitosan oligosaccharide self-aggregated micelles for controlled release of paclitaxel" *Colloids and Surfaces B: Biointerfaces*, vol. 50 pp. 97-103, *2006*

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