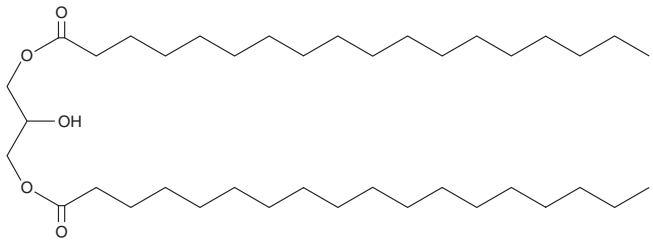
PRODUCT INFORMATION

1,3-Distearoyl Glycerol

Item No. 26946

CAS Registry No.: 504-40-5
Formal Name: octadecanoic acid, 1,1'-(2-hydroxy-1,3-propanediyl) ester
Synonyms: DG(18:0/0:0/18:0), 1,3-Distearin, NSC 404229
MF: $C_{39}H_{76}O_5$
FW: 625.0
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

1,3-Distearoyl glycerol is supplied as a solid. A stock solution may be made by dissolving the 1,3-distearoyl glycerol in the solvent of choice, which should be purged with an inert gas. 1,3-Distearoyl glycerol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 1,3-distearoyl glycerol in these solvents is approximately 0.25, 30, and 20 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 1,3-distearoyl glycerol can be prepared by directly dissolving the solid in aqueous buffers. The solubility of 1,3-distearoyl glycerol in PBS, pH 7.2, is approximately 0.7 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

1,3-Distearoyl glycerol is a diacylglycerol that contains stearic acid (Item No. 10011298) at the *sn*-1 and *sn*-3 positions. It has been found in wheat bran extract.[1] 1,3-Distearoyl glycerol has been used in the synthesis of prodrug forms of the non-steroidal anti-inflammatory drugs (NSAIDs) ibuprofen, naproxen (Item No. 70290), and diclofenac (Item Nos. 70680 | 22983) that have reduced ulcerogenicity.[2-4]

References

1. Prinsen, P., Gutiérrez, A., Faulds, C.B., *et al.* Comprehensive study of valuable lipophilic phytochemicals in wheat bran. *J. Agric. Food Chem.* **62(7),** 1664-1673 (2014).
2. Khan, M.S. and Akhter, M. Synthesis, pharmacological activity and hydrolytic behavior of glyceride prodrugs of ibuprofen. *Eur. J. Med. Chem.* **40(4),** 371-376 (2005).
3. Redasani, V.K. and Bari, S.B. Synthesis and evaluation of glyceride prodrugs of naproxen. *Open J. Med. Chem.* **3(3),** 87-92 (2013).
4. Khan, M.S.Y. and Akhter, M. Synthesis, biological evaluation and kinetic studies of glyceride prodrugs of diclofenac. *Indian J. Exp. Biol.* **42(11),** 1066-1072 (2004).

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