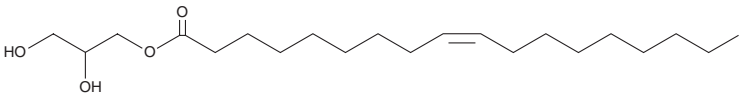
PRODUCT INFORMATION

1-Oleoyl Glycerol

Item No. 26793

CAS Registry No.:	111-03-5
Formal Name:	9Z-octadecenoic acid, 2,3-dihydroxypropyl ester
Synonyms:	18:1-MG, MG(18:1), 1-Monoolein, 1-Oleoyl-*rac*-glycerol
MF:	$C_{21}H_{40}O_4$
FW:	356.5
Purity:	≥95%
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-Oleoyl glycerol is supplied as a solid. A stock solution may be made by dissolving the 1-oleoyl glycerol in the solvent of choice, which should be purged with an inert gas. 1-Oleoyl glycerol is soluble in the organic solvent chloroform at a concentration of approximately 50 mg/ml.

Description

1-Oleoyl glycerol is a monoacylglycerol containing oleic acid (Item No. 90260) at the *sn*-1 position. 1-Oleoyl glycerol (10%), in a formulation with cyclosporin A (Item No. 12088) in propylene glycol, enhances diffusion of cyclosporin A from the donor compartment of a Franz diffusion cell into the stratum corneum, epidermis, and dermis of porcine ear skin, as well as through the skin to the receptor compartment.[1] Mixed micellar systems containing 1-oleoyl glycerol and bile salts increase the apparent permeability coefficient (P_{app}) and absorption rate of amphotericin B (Item No. 11636) in perfused rat intestine *in vivo*.[2] Lipid nanoparticles (LNPs) containing 1-oleoyl-glycerol and encapsulating various mRNAs exhibit enhanced pulmonary delivery *via* intranasal administration and targeted spleen delivery *via* intravenous administration in mice compared with LNPs containing DSPC.[3] Formulations containing 1-oleoyl glycerol have been used as emulsifying agents, food additives, and absorption enhancers.

References

1. Lopes, L.B., Collett, J.H., and Bentley, M.V.L.B. Topical delivery of cyclosporin A: An in vitro study using monoolein as a penetration enhancer. *Eur. J. Pharm. Biopharm.* **60(1)**, 25-30 (2005).
2. Dangi, J.S., Vyas, S.P., and Dixit, V.K. Effect of various lipid-bile salt mixed micelles on the intestinal absorption of amphotericin-B in rat. *Drug Dev. Ind. Pharm.* **24(7)**, 631-635 (1998).
3 Martinez, N., Yu, H., Iscaro, J., *et al.* Structure-function correlation of clinically inspired lipid nanoparticles for lung and spleen targeted mRNA delivery. *Adv. Healthc. Mater.* **26,** e03612 (2025).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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