

Product Name: DSPE-PEG 2000 Maleimide

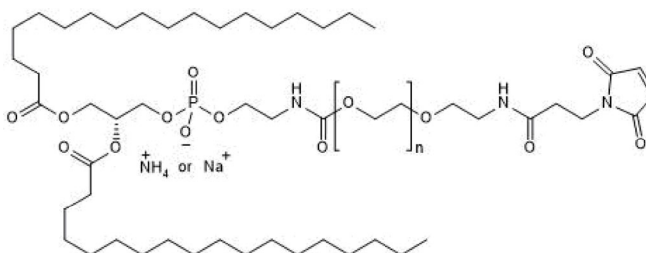
Catalog No.: 7947

Batch No.: 1

IUPAC Name: 1,2-Distearoyl-*sn*-glycero-3-phosphoethanolamine-*N*-[maleimide(polyethylene glycol-2000)]

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$(C_2H_4O)_n C_{51}H_{91}N_3O_{13}P.NH_4$ or Na
Physical Appearance:	White solid
Solubility:	ethanol to 10 mg/ml with gentle warming chloroform to 10 mg/ml
Storage:	Store at -20°C
Batch Molecular Structure:	



2. ANALYTICAL DATA

HPLC:	Shows 94.3 % purity
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Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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IUPAC Name: 1,2-Distearoyl-*sn*-glycero-3-phosphoethanolamine-*N*-[maleimide(polyethylene glycol-2000)]

Description:

DSPE-PEG 2000 Maleimide is a functionalized phospholipid-polymer conjugate. It comprises a 1,2-distearoyl-*sn*-glycero-PE (DSPE) covalently coupled to a linear polyethylene glycol (M_r 2000) with a maleimide-terminated end for onward chemistry. It is commonly used to synthesize antibody-coupled liposomes and lipid nanoparticles. It has been used in antibody-targeted LNP-mRNA systems to generate transient antifibrotic chimeric antigen receptor (CAR) T cells *in vivo*.

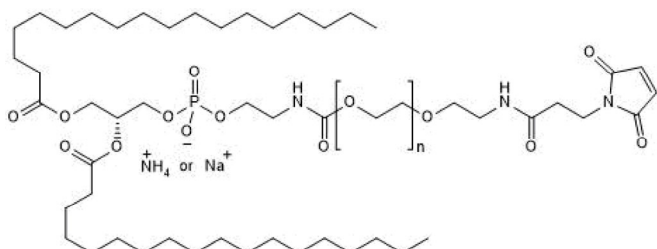
Physical and Chemical Properties:

Batch Molecular Formula: $(C_2H_4O)_n C_{51}H_{91}N_3O_{13}P.NH_4$ or Na

Physical Appearance: White solid

Minimum Purity: ≥90%

Batch Molecular Structure:



Storage: Store at -20°C. This product is packaged under an inert atmosphere.

Solubility & Usage Info:

ethanol to 10 mg/ml with gentle warming

chloroform to 10 mg/ml

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Herrera-Barrera et al (2023) Peptide-guided lipid nanoparticles deliver mRNA to the neural retina of rodents and nonhuman primates. *Sci.Adv.* **9** eadd4623. PMID: 36630502.

Rurik et al (2022) CAR T cells produced *in vivo* to treat cardiac injury. *Science* **375** 91. PMID: 34990237.

Ishida et al (1999) A combinatorial approach to producing sterically stabilized (Stealth) immunoliposomal drugs. *FEBS Lett.* **460** 129. PMID: 10571074.

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bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel:+1 612 379 2956