

Chemical Safety Data Sheet MSDS / SDS

1,2-distearoyl-sn-glycero-3-phosphoethanolamine-N-[biotinyl(polyethylene glycol)-2000] (ammonium salt)

Revision Date:2026-05-31 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier**

Product name : 1,2-distearoyl-sn-glycero-3-phosphoethanolamine-N-[biotinyl(polyethylene glycol)-2000] (ammonium salt)

CBnumber : CB62720692

CAS : 385437-57-0

Synonyms : DSPE-PEG(2000) Biotin, DSPE-PEG-Biotin (MW 2000)

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.

Uses advised against : none

Company Identification

Company : Chemicalbook

Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing

Telephone : 010-86108875

SECTION 2: Hazards identification**GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

Precautionary statements

P308+P313 IF exposed or concerned: Get medical advice/attention.

P302+P352 IF ON SKIN: wash with plenty of soap and water.

P273 Avoid release to the environment.

P201 Obtain special instructions before use.

Hazard statements

H412 Harmful to aquatic life with long lasting effects

H372 Causes damage to organs through prolonged or repeated exposure

H351 Suspected of causing cancer

H336 May cause drowsiness or dizziness

H331 Toxic if inhaled
H319 Causes serious eye irritation
H315 Causes skin irritation
H302 Harmful if swallowed

SECTION 3: Composition/information on ingredients

Substance

Product name : 1,2-distearoyl-sn-glycero-3-phosphoethanolamine-N-[biotinyl(polyethylene glycol)-2000] (ammonium salt)
Synonyms : DSPE-PEG(2000) Biotin, DSPE-PEG-Biotin (MW 2000)
CAS : 385437-57-0
MF : (C₂H₄O)_nC₅₄H₁₀₁N₄O₁₂PS.Na

SECTION 4: First aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

Protection of first-aiders

For personal protection see section 8.

Notes to physician

No data available

SECTION 5: Firefighting measures

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards during fire fighting

Not combustible. Ambient fire may liberate hazardous vapours.

Hazardous combustion products

Carbon oxides Hydrogen chloride gas

Specific extinguishing methods

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material. Dispose of properly. Clean up affected area.

SECTION 7: Handling and storage

Handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Avoidance of contact

Strong oxidizing agents Strong bases Magnesium Sodium/sodium oxides Lithium various plastics

Storage

Further information on storage conditions

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage class

6.1D, Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

Recommended storage temperature

-20 °C

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

2007

Engineering measures

No data available

Personal protective equipment

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type

Filter type AX

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Safety glasses

Skin and body protection

protective clothing

Hand protection

Remarks

required

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

liquid

Color

colorless

Odor

sweet

Odor Threshold

No data available

pH

No data available

Melting point/ range

-63.5 °C (1,013 hPa)

Boiling point/boiling range

61.2 °C (1,013 hPa)

Flash point : Method: DIN 51755 Part 1 does not flash Not applicable

Evaporation rate

No data available

Flammability (solid, gas)

No data available

Flammability (liquids)

The product is not flammable.

Burning rate

No data available

Self-ignition

> 600 °C 1,013 hPa

Method: DIN 51794 Not applicable

Upper explosion limit / Upper flammability limit

Not applicable

Lower explosion limit / Lower flammability limit

Not applicable

Vapor pressure

210 hPa (20 °C)

Relative vapor density

4.12

Relative density

No data available

Density

1.49 g/cm³

Water solubility

8.7 g/l (23 °C)

Method: OECD Test Guideline 105

Partition coefficient: n-octanol/water

log Pow: 1.97 (25 °C)

Method: (experimental) (ECHA) Bioaccumulation is not expected.

Autoignition temperature

Not applicable

Decomposition tempera-: Distillable in an undecomposed state at normal presture sure.

Viscosity, dynamic

No data available

Viscosity, kinematic

No data available

Flow time

No data available

Explosive properties

No data available

Oxidizing properties

none

Surface tension

27.1 mN/m, 20.0 °C

Particle characteristics Particle size

No data available

Solubility in other solvents

miscible organic solvent: (20 °C)

Physical state

Solid

SECTION 10: Stability and reactivity**Reactivity**

No data available

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Contains the following stabilizer(s):

ethanol (0.5 %)

Possibility of hazardous reactions

No data available

Conditions to avoid

no information available

Incompatible materials

Strong oxidizing agents Strong bases Magnesium Sodium/sodium oxides Lithium various plastics

Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture Acute toxicity

Acute toxicity estimate Oral - 936.08 mg/kg (Calculation method)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute toxicity estimate Inhalation - 4 h - 3.2 mg/l - vapor(Calculation method)

Symptoms: Possible symptoms:., mucosal irritations

Dermal: No data available

Skin corrosion/irritation

Remarks: Mixture causes skin irritation.

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye irritation.

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

Germ cell mutagenicity

Classified based on available data. For more details, see section 2

Carcinogenicity

Evidence of a carcinogenic effect.

Reproductive toxicity

Suspected of damaging the unborn child.

Suspected of damaging fertility.

Specific target organ toxicity - single exposure

Mixture may cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

Mixture causes damage to organs through prolonged or repeated exposure.

- Liver, Kidney

Aspiration hazard

Classified based on available data. For more details, see section 2

11.2 Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Components Chloroform

Acute toxicity

LD50 Oral - Rat - male - 908 mg/kg (OECD Test Guideline 401)

LC50 Inhalation - Rat - 6 h - 9.17 mg/l - vapor

Acute toxicity estimate Inhalation - Expert judgment - 4 h - 3.1 mg/l - vapor

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. - 24 h

Remarks: (ECHA)

Remarks: Drying-out effect resulting in rough and chapped skin.

Skin - Rabbit

Result: slight irritation

Remarks: (IUCLID)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irritating to eyes.

Remarks: (ECHA)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative (Regulation (EC) No. 440/2008, Annex, B.6)

Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Result: negative

Remarks: (ECHA)

Test Type: unscheduled DNA synthesis assay

Test system: Liver

Result: negative

Remarks: (ECHA)

Method: OECD Test Guideline 474

Species: Rat - male and female - Red blood cells (erythrocytes)

Result: negative

Method: OECD Test Guideline 486

Species: Rat - male - Liver cells

Result: negative

Species: Mouse - female

Result: negative

Remarks: (ECHA)

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

Oral - Causes damage to organs through prolonged or repeated exposure.

- Liver, Kidney

Aspiration hazard

Classified based on available data. For more details, see section 2

SECTION 12: Ecological information

Ecotoxicity

Components:

Chloroform:

Toxicity to daphnia and other aquatic invertebrates

EC50 (Crassostrea gigas): 152.5 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Remarks: (ECHA)

Toxicity to algae/aquatic plants

ErC50 (Chlamydomonas reinhardtii (green algae)): 13.3 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

NOEC (Daphnia magna (Water flea)): 6.3 mg/l End point: reproduction rate Exposure time: 21 d Test Type: semi-static test Analytical monitoring: yes Remarks: (ECHA)

Ecotoxicology Assessment

Chronic aquatic toxicity

This product has no known ecotoxicological effects.

Persistence and degradability

Components:

Chloroform:

Biodegradability

Remarks: No data available

Bioaccumulative potential**Components:****Chloroform:****Bioaccumulation**

Remarks: No data available

Mobility in soil**Components:****Chloroform:****Distribution among environmental compartments**

Adsorption/Soil Koc: 52.5, log Koc: 1.72 Method: (experimental) Remarks: Mobile in soils

Other adverse effects**Components:****Chloroform:****Results of PBT and vPvB assessment**

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 13: Disposal considerations

Disposal methods**Waste from residues**

Offer surplus and non-recyclable solutions to a licensed disposal company.

SECTION 14: Transport information

International Regulations**IATA-DGR**

UN/ID No. : UN 1888

Proper shipping name : Chloroform solution

Class : 6.1

Packing group : III

Labels : Division 6.1 - Toxic substances

Packing instruction (cargo aircraft) : 680

Packing instruction (passenger aircraft) : 680

IMDG-Code

UN number : UN 1888

Proper shipping name : CHLOROFORM SOLUTION

Class : 6.1

Packing group : III

Labels : 6.1

EmS Code : F-A, S-A

Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National regulation GB 6944/12268

UN number : UN 1888

Proper shipping name : CHLOROFORM

Class : 6.1

Packing group : III

Labels : 6.1

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15: Regulatory information

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals

Hazardous Chemicals for Priority Management

Not applicable under SAWS

Catalogue of Specially Controlled Hazardous

Listed Chemicals

List of Explosive Precursors

Not listed

Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import and Export

Not applicable

Regulation on the Administration of Precursor Chemicals

Catalogue and Classification of Precursor Chemicals

Listed

Regulations on the Administration of Controlled Chemicals

List of Controlled Chemicals

Not listed

Regulations of Ozone Depleting Substances Management

List of Controlled Ozone Depleting Substances

Not listed

List of Controlled Ozone Depleting Substances Import and Export

Not listed

Environmental Protection Law

List of Priority Controlled Chemicals

Listed

List of Key Controlled New Pollutants

Listed

SECTION 16: Other information

Full text of other abbreviations

ACGIH

USA. ACGIH Threshold Limit Values (TLV)

GBZ 2.1-2007

Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

ACGIH / TWA

8-hour, time-weighted average

GBZ 2.1-2007 / PC-TWA AIC - Australian Invent Transport by Land of Bra bw - Body weight; **CMR** Standard of the German List (Canada); **ECx** - Conc associated with x%respo Chemical Substances (Jap response; **ERG** - Emerge **GLP** - Good Laboratory P cer; **IATA** - International Construction and Equipm Half maximal inhibitory c tion; **IECSC** - Inventory o tional Maritime Dangerou **Industrial Safety and H Standardization**; **KECI** - K tration to 50 % of a test (Median Lethal Dose); **MA** lution from Ships; n.o.s. No

**Observed (Adverse) Effect Level; NOELR - No Norm; NTP - National Toxicity; OECD - Organization of Chemical Safety and
Toxic substances; PIC stances; (Q)SAR - (Quant (EC) No 1907/2006 of the Registration, Evaluation, Accelerating Decomposition
Chemical Substance Inventory Thailand Existing Chemical States); UN - United Nations Transport of Dangerous Goods WHMIS - Workplace Hazard**

Permissible concentration - time weighted average of Industrial Chemicals

ANTT - National Agency for Environment

ASTM - American Society for the Testing of Materials

- Carcinogen, Mutagen or Reproductive Toxicant

DIN Institute for Standardisation

DSL - Domestic Substances Notification associated with x% response

ELx - Loading rate

EmS - Emergency Schedule

ENCS - Existing and New Chemicals

ErCx - Concentration associated with x% growth rate of Response Guide

GHS - Globally Harmonized System

Practice

IARC - International Agency for Research on Cancer Transport Association

IBC - International Code for the Construction of Ships carrying Dangerous Chemicals in Bulk

IC50 concentration

ICAO - International Civil Aviation Organization - Existing Chemical Substances in China

IMDG - International Maritime Goods

IMO - International Maritime Organization

ISHL - International Law (Japan)

ISO - International Organisation for Standardization Existing Chemicals Inventory

LC50 - Lethal Concentration

LD50 - Lethal Dose to 50% of a test population POL - International Convention for the Prevention of Pollution from Ships - Not Otherwise Specified

Nch - Chilean Norm

NO(A)EC - No Observed (Adverse) Effect Concentration

NO(A)EL - No Observed (Adverse) Effect Loading Rate

NOM - Official Mexican Nomenclature Program

NZIoC - New Zealand Inventory of Chemicals for Economic Co-operation and Development

OPPTS - Office of Pollution Prevention and Control

PBT - Persistent, Bioaccumulative and Toxic - Philippines Inventory of Chemicals and Chemical Substances Structure Activity Relationship

REACH - Regulation of the European Parliament and of the Council concerning the Restriction and Regulation of Chemicals

SADT - Self-Heating Temperature

SDS - Safety Data Sheet

TCSI - Taiwan Chemical Safety Inventory

TDG - Transportation of Dangerous Goods

TECS Inventory

TSCA - Toxic Substances Control Act (United States)

UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

vPvB - Very Persistent and Very Bioaccumulative

Global Harmonized System

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.