

## Chemical Safety Data Sheet MSDS / SDS

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

CBnumber : CB62720748

CAS : 474922-24-2

Synonyms : DSPE-PEG-SPDP

**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

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## SECTION 3: Composition/information on ingredients

### Substance

Product name : 1,2-distearoyl-sn-glycero-3-phosphoethanolamine-N-[PDP(polyethylene glycol)-2000] (ammonium salt)  
Synonyms : DSPE-PEG-SPDP  
CAS : 474922-24-2  
MF : (C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>C<sub>52</sub>H<sub>94</sub>N<sub>3</sub>O<sub>11</sub>PS<sub>2</sub>.H<sub>3</sub>N

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## 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

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## 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.

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## 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.

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## 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

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## 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.

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## SECTION 9: Physical and chemical properties

**Information on basic physicochemical properties**

liquid

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**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/cm<sup>3</sup>

**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**

powder

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**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

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## SECTION 11: Toxicological information

### **11.1 Information on toxicological effects**

#### **Mixture Acute toxicity**

Acute toxicity estimate Oral - 921.83 mg/kg (Calculation method)

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

Acute toxicity estimate Inhalation - 4 h - 3.15 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

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## 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.

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## SECTION 13: Disposal considerations

**Disposal methods****Waste from residues**

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

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## 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.

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## **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

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## **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 Authorization 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

Chemical Materials Information 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.