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## Safety Data Sheet acc. to OSHA HCS

Date of issue: 09/20/2024 Revision date 09/20/2024

#### 1 Identification

- · Product identifier
- · Trade name: 1-Stearoyl-2-Docosahexaenoyl-sn-glycero-3-PE
- · Synonym

4Z,7Z,10Z,13Z,16Z,19Z-docosahexaenoic acid, (1R)-1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy] methyl]-2-[(1-oxooctadecyl)oxy]ethyl ester

- · Other means of identification
- · Article number: 41382
- · Application of the substance / the mixture

This product is for research use - Not for human or veterinary diagnostic or therapeutic use.

- Details of the supplier of the safety data sheet
- Manufacturer/Supplier:

Cayman Chemical Co. 1180 E. Ellsworth Rd. Ann Arbor, MI 48108

USA

- · Information department: Product safety department
- · Emergency telephone number:

During normal opening times: +1 (734) 971-3335

US/CANADA: 800-424-9300 Outside US/CANADA: 703-741-5970

## 2 Hazard(s) identification

· Classification of the substance or mixture



GHS02 Flame

Flammable liquids 2 H225 Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute toxicity - oral 3 H301 Toxic if swallowed.
Acute toxicity - inhalation 3 H331 Toxic if inhaled.



GHS08 Health hazard

Carcinogenicity 2 H351 Suspected of causing cancer.

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Reproductive toxicity 2 H361 Suspected of damaging fertility or the

unborn child.

Specific target organ toxicity (single exposure) 1 H370 Causes damage to the central nervous

system and the visual organs.

Specific target organ toxicity (repeated exposure) 1 H372 Causes damage to the central nervous

system, the kidneys, the liver and the respiratory system through prolonged or

repeated exposure.



Acute toxicity - dermal 4 H312 Harmful in contact with skin.

Skin irritation 2 H315 Causes skin irritation.

Eye irritation 2A H319 Causes serious eye irritation.

Specific target organ toxicity (single exposure) 3 H336 May cause drowsiness or dizziness.

#### · Label elements

#### · GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

#### · Hazard pictograms









GHS02 GHS06 GHS07 GHS08

#### · Signal word Danger

#### · Hazard-determining components of labeling:

Chloroform Methanol

### · Hazard statements

H225 Highly flammable liquid and vapor. H301+H331 Toxic if swallowed or if inhaled. H312 Harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation. H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or the unborn child.

H370 Causes damage to the central nervous system and the visual organs.

H336 May cause drowsiness or dizziness.

Causes damage to the central nervous system, the kidneys, the liver and the respiratory

system through prolonged or repeated exposure.

#### · Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P240 Ground / bond container and receiving equipment.

P241 Use explosion-proof [electrical/ventilating/lighting] equipment.

P242 Use non-sparking tools.

P243 Take action to prevent static discharge.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

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P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing

protection.

P301+P310 If swallowed: Immediately call a poison center/doctor.

P321 Specific treatment (see on this label).

P330 Rinse mouth.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with

water [or shower].

P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

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

P312 Call a poison center/doctor if you feel unwell.
P314 Get medical advice/attention if you feel unwell.

P362+P364 Take off contaminated clothing and wash it before reuse.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P370+P378 In case of fire: Use CO2, powder or water spray to extingui

P370+P378 In case of fire: Use CO2, powder or water spray to extinguish. P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

- · Information pertaining to particular dangers for man and environment:
- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 2 Fire = 3 Reactivity = 0

## · HMIS-ratings (scale 0 - 4)



Health = \*2 Fire = 3

TY 0 Reactivity = 0

- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · **vPvB:** Not applicable.
- · Classification according to (d)(1)(ii) of § 1910.12000

The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.

· Hazards not otherwise classified

There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

### 3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · **Description:** Mixture of the substances listed below with nonhazardous additions.

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	(Conto	i. from page 3)
· Dangerous compon	ents:	
CAS: 67-66-3 RTECS: FS9100000	Chloroform	45–70% *
CAS: 67-56-1 RTECS: PC1400000	Methanol	10–30% *

<sup>\*</sup> Actual concentration ranges are withheld as a trade secret.

· Other ingre	· Other ingredients	
96998-01-5	1-Stearoyl-2-Docosahexaenoyl-sn-glycero-3-PE	0.1–1%
	amylenes	≤0.1%

### 4 First-aid measures

- · Description of first aid measures
- · General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· After inhalation:

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- After swallowing: Do not induce vomiting; immediately call for medical help.
- · Most important symptoms and effects, both acute and delayed

No further relevant information available.

· Indication of any immediate medical attention and special treatment needed

No further relevant information available.

## **5 Fire-fighting measures**

- · Extinguishing media
- Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- Special hazards arising from the substance or mixture
- 67-56-1During heating or in case of fire poisonous gases are produced.
- · Advice for firefighters
- · Protective equipment: Mouth respiratory protective device.

### **6 Accidental release measures**

· Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

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#### · Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

#### Protective Action Criteria for Chemicals

· PAC-1:		
67-66-3	Chloroform	2 ppm
67-56-1	Methanol	530 ppm
· PAC-2:		
67-66-3	Chloroform	64 ppm
67-56-1	Methanol	2,100 ppm
PAC-3:		
	Chloroform	3,200 ppm
67-56-1	Methanol	7200* ppm

#### · Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### 7 Handling and storage

#### · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

#### · Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

- · Conditions for safe storage, including any incompatibilities
- **Storage:** Store in accordance with information listed on the product insert.
- · Requirements to be met by storerooms and receptacles: Store in a cool location.
- Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

• Specific end use(s) No further relevant information available.

## 8 Exposure controls/personal protection

#### · Control parameters

#### · Components with limit values that require monitoring at the workplace:

#### 67-66-3 Chloroform

PEL Ceiling limit value: 240 mg/m³, 50 ppm REL Short-term value: 9.78\* mg/m³, 2\* ppm \*60-min; See Pocket Guide App. A

TLV Long-term value: 10 ppm

А3

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#### 67-56-1 Methanol

PEL Long-term value: 260 mg/m³, 200 ppm
REL Short-term value: 325 mg/m³, 250 ppm
Long-term value: 260 mg/m³, 200 ppm

Skin

TLV Short-term value: 250 ppm Long-term value: 200 ppm

Skin; BEIc

#### Ingredients with biological limit values:

#### 67-56-1 Methanol

BEI 15 mg/L

Medium: urine Time: end of shift

Parameter: Methanol (background, nonspecific)

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Appropriate engineering controls No further data; see section 7.
- Personal protective equipment:
- General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately. Avoid contact with the eyes and skin.

#### Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



#### Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

#### Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

#### · Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:



Tightly sealed goggles

## 9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Physical state Fluid

· Color: According to product specification

· Odor: Characteristic · Structural Formula C45H78NO8P · Molecular Weight 792.1 g/mol

· Storage Buffer

· Odor threshold: Not determined.

· Formulation A solution in methanol:chloroform (30:70) and 0.1%

amylenes

· Melting point/Melting range: Undetermined. Boiling point/Boiling range: 61 °C (141.8 °F) · Flammability: Highly flammable.

· Explosion limits:

· Lower: 5.5 Vol % · Upper: 44 Vol % · Flash point: 9.7 °C (49.5 °F) Auto igniting: 455 °C (851 °F) Decomposition temperature: Not determined. pH-value: Not determined.

· Viscosity:

· Kinematic: Not determined.

· SOLUBILITY

· Dynamic: Not determined.

· Solubility in / Miscibility with

· Water: Fully miscible. · Partition coefficient (n-octanol/water): Not determined.

· Vapor pressure at 20 °C (68 °F): 211 hPa (158.3 mm Hg)

Vapor pressure:

· Density: Not determined. · Relative density Not determined. · Vapor density Not determined. · Particle characteristics Not applicable.

· Other information

· Appearance:

· Form: Liquid

· Important information on protection of health

and environment, and on safety.

· Ignition temperature: Product is not selfigniting.

Danger of explosion: Product is not explosive. However, formation of

explosive air/vapor mixtures are possible.

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· Solvent content:

· Organic solvents: 29.7 % · VOC content: 29.67 %

296.7 g/l / 2.48 lb/gal

· Solids content: 1.0 %

· Change in condition

· Evaporation rate Not determined.

## 10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- · Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

3.1/3.2)

- Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

### 11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

· LD/L	· LD/LC50 values that are relevant for classification:	
ATE (Acute Toxicity Estimate)		y Estimate)
Oral	LD50	268 mg/kg (rat)
Derm	nal LD50	1,011 mg/kg (rabbit)
Inhal	ative LC50/4 h	3.13 mg/l (rat)
67-60	67-66-3 Chloroform	
Oral	LD50	908 mg/kg (rat) OECD Test Guideline 401
Inhal	ative LC50/4 h	3.1 mg/l (rat) Expert judgment
67-50	67-56-1 Methanol	
Oral	LD50	100.1 mg/kg (rat) (Expert judgment) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Symptoms: Nausea, Vomiting
Derm	nal LD50	300.1 mg/kg (rabbit) (Expert judgment) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Inhal	ative LC50/4 h	3.1 mg/l (rat) (Expert judgment)

Symptoms: Irritation symptoms in the respiratory tract.

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table

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- · on the skin: Irritant to skin and mucous membranes.
- · on the eve: Irritating effect.
- Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Toxic

Harmful

Irritant

- · Interactive effects No interactive effects between components are known.
- Carcinogenic categories

	ternational Agency for Research on Cancer)
67-66-3	Chloroform

· NTP (National Toxicology Program)

67-66-3 Chloroform

R

2B

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Alternative sources for toxicological information

No non-standard sources for toxicological information where used.

## 12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- Other adverse effects
- · Additional ecological information:
- · General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

## 13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

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UN-Number DOT, IMDG, IATA	UN1992
UN proper shipping name	
DOT	Flammable liquids, toxic, n.o.s. (Methanol, Chloroforn
IMDG	FLAMMABLE LIQUID, TOXIC, N.O.S. (Methano
IATA	CHLOROFORM)
IATA	Flammable liquid, toxic, n.o.s. (Methano CHLOROFORM)
Transport hazard class(es)	
DOT	
RAMMABLE LOUID  TOXIC  S	
Class	3 Flammable liquids
Label	3, 6.1
IMDG	
Class	3 Flammable liquids
Label	3/6.1
IATA	
Class	3 Flammable liquids
Label	3 (6.1)
Packing group DOT, IMDG, IATA	II
Environmental hazards:	Not applicable.
Transport in bulk according to Annex II of	
MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT Oughtity limitations	On passanger aircraft/rail: 1 !
Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 60 L
IMDG	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

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(Contd. from page 10) · IATA · Remarks: When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity. Warning: Flammable liquids · Special precautions for user · Hazard identification number (Kemler code): 336 · EMS Number: F-E,S-D · Segregation groups (SGG10) Liquid halogenated hydrocarbons Stowage Category · Stowage Code SW2 Clear of living quarters. · UN "Model Regulation": UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.

## 15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.

(METHANOL, CHLOROFORM), 3 (6.1), II

Section 355 (extremely hazardous substances):	
67-66-3 Chloroform	
Section 313 (Specific toxic chemical listings):	
67-66-3 Chloroform	
67-56-1 Methanol	
TSCA (Toxic Substances Control Act):	
67-66-3 Chloroform	ACTI\
67-56-1 Methanol	ACTIV
Hazardous Air Pollutants	
67-66-3 Chloroform	
67-56-1 Methanol	
Proposition 65	
Chemicals known to cause cancer:	
67-66-3 Chloroform	
Chemicals known to cause reproductive toxicity for females:	
None of the ingredients is listed.	
None of the highesterite is noted.	
Chemicals known to cause reproductive toxicity for males:	
Chemicals known to cause reproductive toxicity for males:	
Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed.	

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· Carcinogenic categories

· EPA (Environmental Protection Agency) 67-66-3 Chloroform B2, L, NL

· TLV (Threshold Limit Value)

67-66-3 Chloroform

А3

NIOSH-Ca (National Institute for Occupational Safety and Health)

67-66-3 Chloroform

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## **16 Other information**

All chemicals may pose unknown hazards and should be used with caution. This SDS applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. Cayman Chemical Company assumes no responsibility for incidental or consequential damages, including lost profits, arising from the use of these data. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Cayman Chemical Company assumes no responsibility for the completeness or accuracy of the information contained herein.

- · Department issuing SDS: Environment protection department.
- · Contact: -
- Date of preparation 09/20/2024
- Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flammable liquids 2: Flammable liquids - Category 2

Acute toxicity - oral 3: Acute toxicity - Category 3

Acute toxicity - dermal 4: Acute toxicity - Category 4

Skin irritation 2: Skin corrosion/irritation - Category 2

Eye irritation 2A: Serious eye damage/eye irritation - Category 2A

Carcinogenicity 2: Carcinogenicity – Category 2

Reproductive toxicity 2: Reproductive toxicity – Category 2

Specific target organ toxicity (single exposure) 1: Specific target organ toxicity (single exposure) - Category 1

Specific target organ toxicity (repeated exposure) 1. Specific target organ toxicity (repeated exposure) - Category 1