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## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product name : 1',3'-bis[1,2-dimyristoleoyl-sn-glycero-3-phospho]-glycerol (sodium salt)

Product Number : 710337C

Brand : AVANTI

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

Identified uses : Laboratory chemicals, Synthesis of substances

### 1.3 Details of the supplier of the safety data sheet

Company : Avanti Polar Lipids, INC  
 700 Industrial Park Drive  
 Alabaster, AL 35007  
 United States of America

Telephone : (205) 663-2494

Fax : (205) 663-0756

### 1.4 Emergency telephone number

Emergency Phone # : +1 703-741-5970 / 1800-424-9300(CHEMTREC)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 3), H331

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

Carcinogenicity (Category 2), H351

Reproductive toxicity (Category 2), H361d

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Specific target organ toxicity - repeated exposure (Category 1), Liver, Kidney, H372

Acute aquatic toxicity (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H302

Harmful if swallowed.

H315

Causes skin irritation.

H319

Causes serious eye irritation.

|                            |  |
|----------------------------|--|
| H331                       | Toxic if inhaled.  |
| H336                       | May cause drowsiness or dizziness.   |
| H351                       | Suspected of causing cancer.   |
| H361d                      | Suspected of damaging the unborn child.  |
| H372                       | Causes damage to organs (Liver, Kidney) through prolonged or repeated exposure.  |
| H402                       | Harmful to aquatic life.   |
| Precautionary statement(s) |  |
| P201                       | Obtain special instructions before use.  |
| P202                       | Do not handle until all safety precautions have been read and understood.  |
| P260                       | Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  |
| P264                       | Wash skin thoroughly after handling.   |
| P270                       | Do not eat, drink or smoke when using this product.  |
| P271                       | Use only outdoors or in a well-ventilated area.  |
| P273                       | Avoid release to the environment.  |
| P280                       | Wear protective gloves/ protective clothing/ eye protection/ face protection.  |
| P301 + P312 + P330         | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.   |
| P302 + P352                | IF ON SKIN: Wash with plenty of soap and water.  |
| P304 + P340 + P311         | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.                          |
| 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.  |
| P332 + P313                | If skin irritation occurs: Get medical advice/ attention.  |
| P337 + P313                | If eye irritation persists: Get medical advice/ attention.   |
| P362                       | Take off contaminated clothing and wash before reuse.  |
| P403 + P233                | Store in a well-ventilated place. Keep container tightly closed.   |
| P405                       | Store locked up.   |
| P501                       | Dispose of contents/ container to an approved waste disposal plant.  |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixtures

Synonyms : 14:1 Cardiolipin

Molecular weight : 119.38 g/mol

#### Hazardous components

| Component              | Classification   | Concentration |
|------------------------|--|---------------|
| <b>Chloroform</b>      |  |               |
| CAS-No. 67-66-3        | Acute Tox. 4; Acute Tox. 3; Skin Irrit. 2; Eye Irrit. 2A; Carc. 2; Repr. 2; STOT SE 3; STOT RE 1; Aquatic Acute 3; H302, H315, H319, H331, H336, H351, H361d, H372, H402 | 90 - 100 %    |
| EC-No. 200-663-8       |  |               |
| Index-No. 602-006-00-4 |  |               |

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

No data available

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No data available

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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature -25 - -15 °C

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

| Component  | CAS-No. | Value  | Control parameters              | Basis   |
|------------|---------|--|---------------------------------|---|
| Chloroform | 67-66-3 | TWA  | 10 ppm                          | USA. ACGIH Threshold Limit Values (TLV)   |
|            | Remarks | Central Nervous System impairment<br>Liver damage<br>Embryo/fetal damage<br>Confirmed animal carcinogen with unknown relevance to humans |                                 |   |
|            |         | ST   | 2 ppm<br>9.78 mg/m <sup>3</sup> | USA. NIOSH Recommended Exposure Limits  |
|            |         | Potential Occupational Carcinogen<br>See Appendix A  |                                 |   |
|            |         | C  | 50 ppm<br>240 mg/m <sup>3</sup> | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants        |
|            |         | The value in mg/m <sup>3</sup> is approximate.<br>Ceiling limit is to be determined from breathing-zone air samples.                     |                                 |   |
|            |         | PEL  | 2 ppm<br>9.78 mg/m <sup>3</sup> | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |

### 8.2 Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

##### Eye/face protection

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

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

|   |   |
|---|---|
| a) Appearance                                   | Form: liquid<br>Colour: colourless  |
| b) Odour  | sweet   |
| c) Odour Threshold                              | No data available   |
| d) pH   | No data available   |
| e) Melting point/freezing point                 | Melting point: -63.5 °C (-82.3 °F) at 1,013 hPa (760 mmHg)                |
| f) Initial boiling point and boiling range      | 61.2 °C (142.2 °F) at 1,013 hPa (760 mmHg)                                |
| g) Flash point                                  | - DIN 51755 Part 1 does not flash   |
| h) Evaporation rate                             | No data available   |
| i) Flammability (solid, gas)                    | No data available   |
| j) Upper/lower flammability or explosive limits | No data available   |
| k) Vapour pressure                              | 210 hPa (158 mmHg) at 20 °C (68 °F)                                       |
| l) Vapour density                               | 4.12 - (Air = 1.0)  |
| m) Relative density                             | 1.49 g/cm <sup>3</sup>  |
| n) Water solubility                             | 8.7 g/l at 23 °C (73 °F) - OECD Test Guideline 105                        |
| o) Partition coefficient: n-octanol/water       | log Pow: 1.97 at 25 °C (77 °F) - (ECHA), Bioaccumulation is not expected. |
| p) Auto-ignition temperature                    | > 600 °C (> 1,112 °F) at 1,013 hPa (760 mmHg) - DIN 51794                 |
| q) Decomposition temperature                    | Distillable in an undecomposed state at normal pressure.                  |
| r) Viscosity                                    | No data available   |
| s) Explosive properties                         | No data available   |
| t) Oxidizing properties                         | No data available   |

### 9.2 Other safety information

|                              |   |
|------------------------------|---|
| Solubility in other solvents | organic solvent at 20 °C (68 °F) - miscible |
| Surface tension              | 27.1 mN/m at 20.0 °C (68.0 °F)              |
| Relative vapour density      | 4.12 - (Air = 1.0)                          |

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

Contains the following stabiliser(s):

Ethanol (0.5 %)

### 10.3 Possibility of hazardous reactions

No data available

#### 10.4 Conditions to avoid

No data available

#### 10.5 Incompatible materials

various plastics, Rubber Strong oxidizing agents

#### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

Other decomposition products - No data available

In the event of fire: see section 5

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### 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

##### Acute toxicity

Dermal: No data available

No data available

##### Skin corrosion/irritation

No data available

##### Serious eye damage/eye irritation

No data available

##### Respiratory or skin sensitisation

No data available

##### Germ cell mutagenicity

No data available

##### Carcinogenicity

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Chloroform)

NTP: RAHC - Reasonably anticipated to be a human carcinogen (Chloroform)

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

##### Reproductive toxicity

No data available

No data available

##### Specific target organ toxicity - single exposure

No data available

##### Specific target organ toxicity - repeated exposure

No data available

##### Aspiration hazard

No data available

##### Additional Information

RTECS: Not available

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

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence (Chloroform)

Stomach - Irregularities - Based on Human Evidence (Ethanol)

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### 12. ECOLOGICAL INFORMATION

#### 12.1 Toxicity

No data available

#### 12.2 Persistence and degradability

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Harmful to aquatic life.

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORT INFORMATION****DOT (US)**

UN number: 1888      Class: 6.1      Packing group: III

Proper shipping name: Chloroform, solution

Reportable Quantity (RQ): 10 lbs Reportable Quantity (RQ): 10 lbs

Poison Inhalation Hazard: No

**IMDG**

UN number: 1888      Class: 6.1      Packing group: III      EMS-No: F-A, S-A

Proper shipping name: CHLOROFORM, SOLUTION

**IATA**

UN number: 1888      Class: 6.1      Packing group: III

Proper shipping name: Chloroform, solution

**15. REGULATORY INFORMATION****SARA 302 Components**

|            |                    |                             |
|------------|--------------------|-----------------------------|
| Chloroform | CAS-No.<br>67-66-3 | Revision Date<br>2008-11-03 |
|------------|--------------------|-----------------------------|

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313:

|            |                    |                             |
|------------|--------------------|-----------------------------|
| Chloroform | CAS-No.<br>67-66-3 | Revision Date<br>2008-11-03 |
|------------|--------------------|-----------------------------|

**SARA 311/312 Hazards**

Acute Health Hazard, Chronic Health Hazard

Reportable Quantity      :      D022 lbs

**Massachusetts Right To Know Components**

|            |                    |                             |
|------------|--------------------|-----------------------------|
| Chloroform | CAS-No.<br>67-66-3 | Revision Date<br>2008-11-03 |
|------------|--------------------|-----------------------------|

**Pennsylvania Right To Know Components**

|            |                    |                             |
|------------|--------------------|-----------------------------|
| Chloroform | CAS-No.<br>67-66-3 | Revision Date<br>2008-11-03 |
|------------|--------------------|-----------------------------|

**California Prop. 65 Components**

, which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).  
Chloroform

CAS-No.  
67-66-3

Revision Date  
2011-09-01

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## 16. OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

|               |   |
|---------------|---|
| Acute Tox.    | Acute toxicity  |
| Aquatic Acute | Acute aquatic toxicity  |
| Carc.         | Carcinogenicity   |
| Eye Irrit.    | Eye irritation  |
| H302          | Harmful if swallowed.   |
| H315          | Causes skin irritation.   |
| H319          | Causes serious eye irritation.                                  |
| H331          | Toxic if inhaled.   |
| H336          | May cause drowsiness or dizziness.                              |
| H351          | Suspected of causing cancer.                                    |
| H361d         | Suspected of damaging the unborn child.                         |
| H372          | Causes damage to organs through prolonged or repeated exposure. |
| H402          | Harmful to aquatic life.  |
| Repr.         | Reproductive toxicity   |
| Skin Irrit.   | Skin irritation   |
| STOT RE       | Specific target organ toxicity - repeated exposure              |
| STOT SE       | Specific target organ toxicity - single exposure                |

### HMIS Rating

|                        |   |
|------------------------|---|
| Health hazard:         | 2 |
| Chronic Health Hazard: | * |
| Flammability:          | 0 |
| Physical Hazard        | 0 |

### NFPA Rating

|                    |   |
|--------------------|---|
| Health hazard:     | 3 |
| Fire Hazard:       | 0 |
| Reactivity Hazard: | 0 |

### Further information

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### Preparation Information

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