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## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product name : 1,2-dipalmitoyl-sn-glycero-3-phosphoethanolamine-N-(7-nitro-2-1,3-benzoxadiazol-4-yl) (ammonium salt)

Product Number : 810144C

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 : 16:0 NBD PE

#### 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          |                                                                                                                                                                          |               |
| Registration number | 01-2119486657-20-XXXX |                                                                                                                                                                          |               |

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

## 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

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## 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/m3 | USA. NIOSH Recommended Exposure Limits                                                  |
|            |         | Potential Occupational Carcinogen<br>See Appendix A                                                                                      |                     |                                                                                         |
|            |         | C                                                                                                                                        | 50 ppm<br>240 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants        |
|            |         | The value in mg/m3 is approximate.<br>Ceiling limit is to be determined from breathing-zone air samples.                                 |                     |                                                                                         |
|            |         | PEL                                                                                                                                      | 2 ppm<br>9.78 mg/m3 | 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 ABEK (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      |
| b) Odour           | No data available |
| c) Odour Threshold | No data available |
| d) pH              | No data available |

|    |                                              |                                                                     |
|----|----------------------------------------------|---------------------------------------------------------------------|
| e) | Melting point/freezing point                 | No data available                                                   |
| f) | Initial boiling point and boiling range      | No data available                                                   |
| g) | Flash point                                  | - DIN 51755 Part 1 does not flash - 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                              | No data available                                                   |
| l) | Vapour density                               | No data available                                                   |
| m) | Relative density                             | 1.49 g/cm <sup>3</sup>                                              |
| n) | Water solubility                             | No data available                                                   |
| o) | Partition coefficient: n-octanol/water       | No data available                                                   |
| p) | Auto-ignition temperature                    | No data available                                                   |
| q) | Decomposition temperature                    | No data available                                                   |
| r) | Viscosity                                    | No data available                                                   |
| s) | Explosive properties                         | No data available                                                   |
| t) | Oxidizing properties                         | No data available                                                   |

## 9.2 Other safety information

No data available

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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

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

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

Remarks: Behavioral:Change in motor activity (specific assay). Behavioral:Ataxia. Lungs, Thorax, or  
Respiration:Respiratory stimulation.

LOEC Inhalation - Rat - male - 6 h - 500 ppm

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Dermal: No data available

LD50 Dermal - Rabbit - > 20,000 mg/kg

Remarks: (RTECS)

No data available

No data available

#### Skin corrosion/irritation

No data available

Skin - Rabbit

Result: Irritating to skin. - 24 h

Remarks: (ECHA)

#### Serious eye damage/eye irritation

No data available

Eyes - Rabbit

Result: Irritating to eyes.

Remarks: (ECHA)

#### Respiratory or skin sensitisation

No data available

Sensitisation test: - Guinea pig

Result: negative

(Maximisation Test)

Remarks: (ECHA)

#### Germ cell mutagenicity

No data available

Ames test

Salmonella typhimurium

Result: negative

reverse mutation assay

Escherichia coli

Result: negative

(ECHA)

OECD Test Guideline 474

Rat - male and female - Bone marrow

Result: negative

OECD Test Guideline 486

Rat - male - Other cell types

Result: negative

#### Carcinogenicity

Carcinogenicity - Rat - Oral

Tumorigenic:Carcinogenic by RTECS criteria. Leukaemia

Suspected of causing cancer.

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  
Suspected of damaging the unborn child.  
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.

Vomiting, Cough, irritant effects, Shortness of breath, respiratory arrest, narcosis, Dizziness, Nausea, agitation, spasms, inebriation, Headache, Stomach/intestinal disorders, ataxia (impaired locomotor coordination), cardiovascular disorders  
Drying-out effect resulting in rough and chapped skin.

Stomach - Irregularities - Based on Human Evidence  
Stomach - Irregularities - Based on Human Evidence  
Stomach - Irregularities - Based on Human Evidence (Ethanol)

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No data available

|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                    | flow-through test LC50 - Danio rerio (zebra fish) - 121 mg/l - 48 h<br>(OECD Test Guideline 203)<br><br>static test LC50 - Pimephales promelas (fathead minnow) - 103 - 171 mg/l - 96 h<br>Remarks: (ECHA)<br><br>flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 18.2 mg/l - 96 h<br>Remarks: (ECHA)<br><br>flow-through test LC50 - Micropterus dolomieu - 51 mg/l - 96 h<br>Remarks: (ECHA) |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 - Daphnia magna (Water flea) - 79 mg/l - 48 h<br>Remarks: (ECHA)                                                                                                                                                                                                                                                                                                                             |
| Toxicity to algae                                   | static test ErC50 - Chlamydomonas reinhardtii (green algae) - 13.3 mg/l - 72 h<br>Remarks: (ECHA)                                                                                                                                                                                                                                                                                                             |

### 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.

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## 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.

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## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 1888      Class: 6.1      Packing group: III  
Proper shipping name: Chloroform, solution  
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

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## 15. REGULATORY INFORMATION

### SARA 302 Components

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

### SARA 313 Components

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

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

### SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

:  
**Reportable Quantity**      D022 lbs

### Massachusetts Right To Know Components

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

### Pennsylvania Right To Know Components

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

### California Prop. 65 Components

|                                                                                                                                                                                                                             | CAS-No. | Revision Date |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|
| , which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> .<br>Chloroform | 67-66-3 | 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                |

### Further information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

### Preparation Information

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