1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers
   Product name: 1-stearoyl-2-oleoyl-sn-glycero-3-phosphocholine
   Product Number: 850467C
   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.
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>18:0-18:1 PC</th>
</tr>
</thead>
</table>

Molecular weight: 119.38 g/mol

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroform</td>
<td>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</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>67-66-3</td>
<td>90 - 100 %</td>
</tr>
<tr>
<td>EC-No.</td>
<td>200-663-8</td>
<td></td>
</tr>
<tr>
<td>Index-No.</td>
<td>602-006-00-4</td>
<td></td>
</tr>
</tbody>
</table>

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

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

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.

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroform</td>
<td>67-66-3</td>
<td>TWA</td>
<td>10 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
<td></td>
<td></td>
<td>Central Nervous System impairment</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Liver damage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Embryo/fetal damage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Confirmed animal carcinogen with unknown relevance to humans</td>
</tr>
<tr>
<td>ST</td>
<td>2 ppm</td>
<td>9.78 mg/m³</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>50 ppm</td>
<td>240 mg/m³</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
<td></td>
</tr>
<tr>
<td>PEL</td>
<td>2 ppm</td>
<td>9.78 mg/m³</td>
<td>California permissible exposure limits for chemical contaminants (Title 8, Article 107)</td>
<td></td>
</tr>
</tbody>
</table>

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) **Appearance**
Form: liquid
Colour: colourless

b) **Odour**
sweet

c) **Odour Threshold**
No data available
<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Melting point: -63.5 °C (-82.3 °F) at 1,013 hPa (760 mmHg)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>61.2 °C (142.2 °F) at 1,013 hPa (760 mmHg)</td>
</tr>
<tr>
<td>Flash point</td>
<td>- DIN 51755 Part 1 does not flash</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>210 hPa (158 mmHg) at 20 °C (68 °F)</td>
</tr>
<tr>
<td>Vapour density</td>
<td>4.12 - (Air = 1.0)</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.49 g/cm³</td>
</tr>
<tr>
<td>Water solubility</td>
<td>8.7 g/l at 23 °C (73 °F) - OECD Test Guideline 105</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 1.97 at 25 °C (77 °F) - (ECHA), Bioaccumulation is not expected.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>&gt; 600 °C (&gt; 1112 °F) at 1,013 hPa (760 mmHg) - DIN 51794</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Distillable in an undecomposed state at normal pressure.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**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)

**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
- Strong bases
- Magnesium
- Sodium/sodium oxides
- Lithium
- Various plastics

**10.6 Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions.
- Carbon oxides
- Nitrogen oxides (NOx)
- Oxides of phosphorus
- Hydrogen chloride gas
Other decomposition products - No data available
In the event of fire: see section 5
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)

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
Proper shipping name: CHLOROFORM, SOLUTION
EMS-No: F-A, S-A

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

15. REGULATORY INFORMATION

SARA 302 Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroform</td>
<td>67-66-3</td>
<td>2008-11-03</td>
</tr>
</tbody>
</table>

SARA 313 Components

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroform</td>
<td>67-66-3</td>
<td>2008-11-03</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Reportable Quantity: D022 lbs

Massachusetts Right To Know Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroform</td>
<td>67-66-3</td>
<td>2008-11-03</td>
</tr>
</tbody>
</table>

Pennsylvania Right To Know Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroform</td>
<td>67-66-3</td>
<td>2008-11-03</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroform</td>
<td>67-66-3</td>
<td>2011-09-01</td>
</tr>
</tbody>
</table>
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
Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 5.1 Revision Date: 05/15/2018 Print Date: 11/15/2018