SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: L-α-phosphatidylserine (Soy, 99%) (sodium salt)

Product Number: 870336C
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

Telephone: (205) 663-2494
Fax: (205) 663-0756

1.4 Emergency telephone number

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

SECTION 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
Short-term (acute) aquatic hazard (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

SECTION 3: Composition/information on ingredients

3.2 Mixtures
Synonyms  : Soy PS

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroform</td>
<td>Acute Tox. 4; Acute Tox. 3;</td>
<td>&gt;= 90 - &lt;=</td>
</tr>
<tr>
<td></td>
<td>Skin Irrit. 2; Eye Irrit. 2A;</td>
<td>100 %</td>
</tr>
<tr>
<td></td>
<td>Carc. 2; Repr. 2; STOT SE 3; STOT RE 1; Aquatic Acute 3; Aquatic Chronic 3; H302, H331, H315, H319, H351, H361, H336, H372, H402, H412</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>67-66-3</td>
<td></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>
<tr>
<td>Registration</td>
<td>01-2119486657-20-XXXX</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 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

SECTION 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
Carbon oxides, Hydrogen chloride gas

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

SECTION 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.

**SECTION 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 -20 °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

**SECTION 8: Exposure controls/personal protection**

8.1 **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></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Central Nervous System impairment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Liver damage</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Embryo/fetal damage</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Confirmed animal carcinogen with unknown relevance to humans</td>
<td></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>Potential Occupational Carcinogen</td>
<td>See Appendix A</td>
<td></td>
<td></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>Remarks</td>
<td></td>
<td></td>
<td>Potential Occupational Carcinogen</td>
<td>EH40 in mg/m³ is approximate. Ceiling limit is to be determined from breathing-zone air samples</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.

---

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>Appearance</td>
</tr>
<tr>
<td></td>
<td>Form: liquid</td>
</tr>
<tr>
<td></td>
<td>Colour: colourless</td>
</tr>
<tr>
<td>b)</td>
<td>Odour</td>
</tr>
<tr>
<td></td>
<td>sweet</td>
</tr>
<tr>
<td>c)</td>
<td>Odour Threshold</td>
</tr>
<tr>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td>d)</td>
<td>pH</td>
</tr>
<tr>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td>e)</td>
<td>Melting point/freezing point</td>
</tr>
<tr>
<td></td>
<td>Melting point: -63.5 °C (-82.3 °F) at 1,013 hPa</td>
</tr>
<tr>
<td>f)</td>
<td>Initial boiling point and boiling range</td>
</tr>
<tr>
<td></td>
<td>61.2 °C 142.2 °F at 1,013 hPa</td>
</tr>
<tr>
<td>g)</td>
<td>Flash point</td>
</tr>
<tr>
<td></td>
<td>() - DIN 51755 Part 1does not flash</td>
</tr>
<tr>
<td>h)</td>
<td>Evaporation rate</td>
</tr>
<tr>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td>i)</td>
<td>Flammability (solid, gas)</td>
</tr>
<tr>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td>j)</td>
<td>Upper/lower flammability or explosive limits</td>
</tr>
<tr>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td>k)</td>
<td>Vapour pressure</td>
</tr>
<tr>
<td></td>
<td>210 hPa at 20 °C (68 °F)</td>
</tr>
<tr>
<td>l)</td>
<td>Vapour density</td>
</tr>
<tr>
<td></td>
<td>4.12 - (Air = 1.0)</td>
</tr>
<tr>
<td>m)</td>
<td>Relative density</td>
</tr>
<tr>
<td></td>
<td>1.49 g/cm3</td>
</tr>
<tr>
<td>n)</td>
<td>Water solubility</td>
</tr>
<tr>
<td></td>
<td>8.7 g/l at 23 °C (73 °F) - OECD Test Guideline 105</td>
</tr>
<tr>
<td>o)</td>
<td>Partition coefficient:</td>
</tr>
<tr>
<td></td>
<td>log Pow: 1.97 at 25 °C (77 °F) - (ECHA), Bioaccumulation is not</td>
</tr>
</tbody>
</table>
n-octanol/water expected.

p) Auto-ignition temperature > 600 °C (> 1112 °F) at 1,013 hPa - 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)

SECTION 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, Hydrogen chloride gas
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 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

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

SECTION 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.
SECTION 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.

SECTION 14: Transport information

DOT (US)
UN number: 1888  Class: 6.1  Packing group: III
Proper shipping name: ChloroformSOLUTION
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: CHLOROFORMSOLUTION

IATA
UN number: 1888  Class: 6.1  Packing group: III
Proper shipping name: ChloroformSOLUTION

SECTION 15: Regulatory information

SARA 302 Components
Chloroform  CAS-No.  Revision Date
67-66-3  2008-11-03

SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:
Chloroform  CAS-No.  Revision Date
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
Chloroform  CAS-No.  Revision Date
67-66-3  2008-11-03

Pennsylvania Right To Know Components

Avanti - 870336C
Chloroform

CAS-No. 67-66-3
Revision Date 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.Chloroform

CAS-No. 67-66-3
Revision Date 2011-09-01

SECTION 16: Other information

Further information

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