1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name: VSTEARIN™ SA11 Stearic Acid

Other means of identification
Product Code: SA11

Recommended use of the chemical and restrictions on use
Recommended Use: Commercial product.
Uses advised against: None identified

Details of the supplier of the safety data sheet
Manufacturer Address: Vantage Oleochemicals, Inc.
4650 South Racine Avenue
Chicago, IL 60609 USA
+1-773-376-9000

Emergency Telephone Number: CHEMTREC International +1-703-527-3887
CHEMTREC USA: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification
This chemical is not hazardous by the 2012 OSHA Hazard Communication Standard.
This is not a dangerous substance or mixture according to the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Label Elements

EMERGENCY OVERVIEW
Not Hazardous

Color: White  Physical State: Solid  Odor: Faint

Hazards not otherwise classified (HNOC)
May form explosive dust clouds in air
Avoid dust formation

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stearic acid</td>
<td>57-11-4</td>
<td>60-100</td>
</tr>
</tbody>
</table>

Formula #2: This substance may be described as CAS 61790-38-3; Fatty acids, tallow, hydrogenated for TSCA inventory purposes.
4. FIRST AID MEASURES

FIRST AID MEASURES

Eye contact  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, consult a physician.

Skin contact  IF ON SKIN: Wash with soap and water.

Inhalation  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Ingestion  IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Contact a doctor/physician if exposed or you feel unwell.

Most important symptoms and effects, both acute and delayed

Symptoms  None identified.

Indication of any immediate medical attention and special treatment needed

Notes to Physician  Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media  Class ABC/BC fire extinguisher. Dry powder, Alcohol foam, Carbon dioxide, Water fog.

Unsuitable extinguishing media  None known.

Specific hazards arising from the chemical  Smoldering can occur in contact with fibrous insulation material. May form explosive dust clouds in air.

Hazardous combustion products  Carbon oxides. Irritating gases and vapors.

Explosion Data

Sensitivity to Mechanical Impact  Not sensitive.

Sensitivity to Static Discharge  None.

Protective equipment and precautions for firefighters  As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions  Refer to Section 8.

Environmental precautions

Environmental precautions  Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for Containment  Cover with plastic sheet to prevent spreading.

Methods for Cleaning Up  Sweep up and recover or mix material with a moist absorbent and shovel into a chemical waste container. Then wash residue from spill area with water containing detergent and flush to a sewer serviced by a permitted wastewater treatment facility.

7. HANDLING AND STORAGE
Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid dust formation. Avoid contact with eyes.

Conditions for safe storage, including any incompatibilities

Storage Store in original container.

Incompatible materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Other Exposure Guidelines Particulates: OSHA PEL 5 mg/m3.

Appropriate engineering controls

Engineering Measures Ensure adequate ventilation, especially in confined areas. Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields.

Skin and Body Protection Impervious gloves. Wear personal protective equipment as required.

Respiratory Protection Not required under normal conditions.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Opaque</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Faint</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Values</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Not Applicable</td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>55 °C / 131 °F</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>205-225 °C / 401-437 °F</td>
<td>@10 hPa</td>
</tr>
<tr>
<td>Flash Point</td>
<td>180 °C / 356 °F</td>
<td>Open cup</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Insoluble</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>&gt;3</td>
<td>Estimated</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>350 °C / 662 °F</td>
<td>Not determined</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>10@ 65°C mPa s</td>
<td></td>
</tr>
</tbody>
</table>
Oxidizing Properties

None

Other Information

Density
0.85 g/ml @ 75°C

10. STABILITY AND REACTIVITY

Reactivity
Not reactive

Remarks

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to Avoid

Avoid dust formation.

Incompatible materials

Strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation
No known hazard.

Eye contact
Not irritating to eyes.

Skin contact
Not irritating to skin.

Ingestion
No known hazard.

Not determined

Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50
Stearic acid 57-11-4 | > 2 g/kg (rat) | > 5 g/kg (Rabbit) | -

Information on toxicological effects

Symptoms
None known.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Mutagenic Effects
No known hazard.

Carcinogenicity
This substance is not classified as a carcinogen by IARC, OSHA, ACGIH, or NTP.

Reproductive Toxicity
No known hazard.

STOT - single exposure
No known hazard.

STOT - repeated exposure
No known hazard.

Aspiration hazard
No known hazard.

Numerical measures of
12. ECOLOGICAL INFORMATION

Ecotoxicity
Not toxic to aquatic organisms at maximum water solubility.

Persistence and degradability
Readily biodegradable: (OECD 301B) (28 days) >70%.

Mobility
This substance is not likely mobile in the environment due low water solubility.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

<table>
<thead>
<tr>
<th>Waste Disposal Method</th>
<th>Dispose of in accordance with applicable regulations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contaminated Packaging</td>
<td>Dispose of in accordance with applicable regulations.</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT
Not regulated

IATA
Not regulated

IMDG / IMO
Not regulated

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS</td>
<td>Complies</td>
</tr>
<tr>
<td>ENCS</td>
<td>Complies</td>
</tr>
<tr>
<td>IECSC</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
<tr>
<td>PICCS</td>
<td>Complies</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
</tr>
</tbody>
</table>

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations
SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories
- Acute health hazard: No
- Chronic Health Hazard: No
- Fire hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations
This product does not contain any substances regulated by state right-to-know regulations

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>n/a</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>B</td>
</tr>
</tbody>
</table>

Prepared by: Product Steward
Issuing Date: 07-Aug-2017
Revision Date: 07-Aug-2017
Revision Note: Update to hazards not otherwise classified (HNOC). Update to section 3.
Reason for Revision:

Disclaimer:
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End of Safety Data Sheet