SILVER FERN CHEMICAL

Safety Data Sheet

Stearyl Amine Distilled

SECTION 1: IDENTIFICATION

Product Name: Stearyl Amine Distilled
CAS Number: 124-30-1
Chemical Name: Stearyl Amine Distilled
Synonyms: 1-Aminoocotadecane; Octadecylamine.

Company
Silver Fern Chemical, Inc.
2226 Queen Anne Avenue North
Suite #C
Seattle WA 98109, USA

Business Contact
Customer Service: 1-866-282-3384
info@silverfernchemical.com

SECTION 2: HAZARD IDENTIFICATION

Danger

H315: Causes skin irritation.
H318: Causes serious eye damage.
H373: May cause damage to organs (Gastro-intestinal system, Liver, Immune system) through prolonged or repeated exposure.
H410: Very toxic to aquatic life with long lasting effects.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Content (W/W)</th>
<th>Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>124-30-1</td>
<td>&gt;98%</td>
<td>Stearyl Amine Distilled</td>
</tr>
</tbody>
</table>
SECTION 4: FIRST AID MEASURES

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

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and get medical attention immediately.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Get medical advice/attention

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: 148 °C (298 °F) - closed cup

Lower/Upper explosion limit: N/A

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture: Carbon oxides, nitrogen oxides (NOx)

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

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.

Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7: HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed.

Storage: Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances.
SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal Protective Equipment (PPE)

Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits: None listed.

Personal Protective Equipment

Eyes - Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin - Wear appropriate protective gloves and clothing to prevent skin exposure.

Clothing - Wear appropriate protective clothing to minimize contact with skin.

Respirators - Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White Flakes/solid</td>
</tr>
<tr>
<td>Odor</td>
<td>Ammoniacal</td>
</tr>
<tr>
<td>pH</td>
<td>Alkaline</td>
</tr>
<tr>
<td>Melting point/freezing Point</td>
<td>50-58°C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>232°C @ 32mmHg</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt;100 °C (212°F)</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>no data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Practically Insoluble</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>no data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>no data available</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>no data available</td>
</tr>
<tr>
<td>Surface tension</td>
<td>no data available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.792 @ 40°C</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>273-287</td>
</tr>
</tbody>
</table>

SECTION 10: STABILITY AND REACTIVITY

Conditions to avoid: Excess heat.

Substances to avoid: Strong oxidizing agents, strong acids, strong bases.
Hazardous reactions: Stable under recommended storage conditions.

Decomposition products: Nitrous gas.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Oral - rat - > 2000 mg/kg  
(OECD Test Guideline 401)  
LC50 Intraperitoneal: mouse – 250 mg/kg  
Dermal: no data available

Skin corrosion/irritation
Skin - Rabbit  
Result: Skin irritation  
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - rabbit  
Result: Risk of serious damage to eyes.  
(OECD Test Guideline 405)

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

Additional Information
RTECS: RG4150000  
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Ingredient Name or Product name</th>
<th>Species</th>
<th>Period</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Octadecylamine</td>
<td>Daphnia (EC50)</td>
<td>48 hour(s)</td>
<td>&lt;1 mg/l</td>
</tr>
<tr>
<td></td>
<td>Algae (EC50)</td>
<td>72 hour(s)</td>
<td>&lt;1 mg/l</td>
</tr>
</tbody>
</table>

Effective Date: 05/07/2014
Biodegradability and Ecotoxicity Remarks
Octadecylamine: 55% @ 28 day(s) CBT based on data for:
(similar material); 72% @ 42 day(s)
CBT based on data for: (similar material)
1-Octadecanamine, N-octadecyl-: 4% @ 28 day(s) CBT based on data for: (similar material)

Biodegradable/OECD
Readily biodegradable

Products of Degradation
These products are carbon oxides (CO, CO2) and water, nitrogen oxides (NO, NO2...).

SECTION 13: DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

SECTION 14: TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
UN number: 3077  Class: 9   Packing group: III   EMS-No: F-A, S-F
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Octadecylamine)
Marine pollutant

IATA
UN number: 3077  Class: 9   Packing group: III   EMS-No: F-A, S-F
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Octadecylamine)

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components
Octadecylamine  CAS-No.
124-30-1

New Jersey Right To Know Components
Octadecylamine  CAS-No.
124-30-1
California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION

DISCLAIMER OF RESPONSIBILITY

The information on this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable.

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