SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product Identifier
Product Form: Substance
Product Name: AL-1298
CAS No: 112-53-8
Synonyms: Lauryl Alcohol

Intended Use of the Product
Use of the Substance/Mixture: Not available.

Name, Address, and Telephone of the Responsible Party
Company
Peter Cremer North America, LP
3117 Southside Ave.
Cincinnati, OH 45204
1-513-471-7200
1-877-901-7262 (Toll free)

Emergency Telephone Number
Emergency Number : CHEMTREC: 1-800-424-9300 US and Canada; 1-703-527-3887 for calls originating elsewhere

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture
Classification (GHS-US)
Aquatic Chronic 1 H410

Full text of H-phrases: see section 16

Label Elements
GHS-US Labeling
Hazard Pictograms (GHS-US) :

Signal Word (GHS-US) : Warning
Hazard Statements (GHS-US) : H410 - Very toxic to aquatic life with long lasting effects.
Precautionary Statements (GHS-US) : P273 - Avoid release to the environment.
P391 - Collect spillage.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.
P401 - Store in accordance with local, regional, national, and international regulations.

Other Hazards
Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

Unknown Acute Toxicity (GHS-US)
No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>% (w/w)</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Dodecanol</td>
<td>(CAS No) 112-53-8</td>
<td>96 - 100</td>
<td>Aquatic Acute 1, H400</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Skin Contact: Rinse immediately with plenty of water. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms and Effects Both Acute and Delayed

General: If product is heated, vaporization can occur. Eye, skin, and upper respiratory irritation can occur.

Inhalation: No harmful effects expected at ambient temperature. High vapor concentrations may cause irritation of the nose and throat, coughing, dizziness, and headache.

Skin Contact: May produce mild, primary skin irritation with prolonged or repeated contact.

Eye Contact: Irritant if accidentally instilled into the eyes.

Ingestion: May cause gastrointestinal irritation.

Chronic Symptoms: None expected under normal conditions of use.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Alcohol foam, dry chemical, carbon dioxide, fog.

Unsuitable Extinguishing Media: Water may be ineffective.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon monoxide, soot, aldehydes and ketones.

Reference to Other Sections: Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
SAFETY DATA SHEET, AL-1298

SECTION 6: ACCIDENTAL RELEASE MEASURES

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing (vapor, mist, spray).
For Non-Emergency Personnel
Protective Equipment: Use appropriate personal protection equipment (PPE).
General Measures: Avoid all unnecessary exposure.
For Emergency Personnel
Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Environmental Precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

Methods and Material for Containment and Cleaning Up
For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal.

Reference to Other Sections
See section 8, Exposure Controls and Personal Protection. For further information refer to section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities
Technical Measures: Comply with applicable regulations.
Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters
For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Exposure Controls
Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.


Materials for Protective Clothing: Chemically resistant materials and fabrics.
Hand Protection: Wear chemically resistant protective gloves.
Eye Protection: Chemical safety goggles.
Skin and Body Protection: Wear suitable protective clothing.
Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.
Environmental Exposure Controls: Do not allow the product to be released into the environment.
SAFETY DATA SHEET, AL-1298

Consumer Exposure Controls: Do not eat, drink or smoke during use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Odor</td>
<td>Fishy, waxy</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>24 °C (75 °F)</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt; 177 °C (350 °F) @ 760 mmHg</td>
</tr>
<tr>
<td>Flash Point</td>
<td>113 °C (235 °F) (Closed-cup)</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower Flammable Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper Flammable Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt; 10 mmHg @ 22° C (72° F)</td>
</tr>
<tr>
<td>Relative Vapor Density at 20 °C</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative Density</td>
<td>0.83 @ 35/25° C</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: Negligible @ 25° C (72° F)</td>
</tr>
<tr>
<td>Partition Coefficient: N-Octanol/Water</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosion Data – Sensitivity to Mechanical Impact</td>
<td>Not expected to present an explosion hazard due to mechanical impact.</td>
</tr>
<tr>
<td>Explosion Data – Sensitivity to Static Discharge</td>
<td>Not expected to present an explosion hazard due to static discharge.</td>
</tr>
</tbody>
</table>

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.
Chemical Stability: Stable under recommended handling and storage conditions (see section 7).
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Ignition sources. Incompatible materials.
Incompatible Materials: Strong acids, strong bases, strong oxidizers.
Hazardous Decomposition Products: Carbon oxides (CO₂), soot, aldehydes and ketones.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified
LD50 and LC50 Data: Not available
Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Causes serious eye irritation.
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Teratogenicity: Not available
Carcinogenicity: Not classified
SAFETY DATA SHEET, AL-1298

SECTION 11 - TOXICOLOGICAL INFORMATION
Specific Target Organ Toxicity (Repeatead Exposure): Not classified
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: Overexposure may be irritating to the respiratory system.
Symptoms/Injuries After Skin Contact: Contact during a long period may cause slight irritation.
Symptoms/Injuries After Eye Contact: Causes serious eye irritation. Redness, pain, swelling, dryness.
Symptoms/Injuries After Ingestion: Ingestion is not likely to be harmful or have adverse effects.
Chronic Symptoms: None expected under normal conditions of use.

Information on Toxicological Effects - Ingredient(s)

<table>
<thead>
<tr>
<th>LD50 and LC50 Data:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Dodecanol (112-53-8)</td>
</tr>
<tr>
<td>LD50 Oral Rat</td>
</tr>
</tbody>
</table>

SECTION 12: ECOLOGICAL INFORMATION

Toxicity
Ecology – General: Very toxic to the aquatic environment with long lasting effects.

<table>
<thead>
<tr>
<th>1-Dodecanol (112-53-8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Fish 1</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
</tr>
<tr>
<td>LC 50 Fish 2</td>
</tr>
</tbody>
</table>

Persistence and Degradability
May cause long-term adverse effects in the environment

Bioaccumulative Potential

<table>
<thead>
<tr>
<th>1-Dodecanol (112-53-8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
</tr>
</tbody>
</table>

Mobility in Soil Not available

Other Adverse Effects
Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS
Waste treatment methods
Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.
Ecology – Waste Materials: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

In Accordance with DOT
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (1-Dodecanol)
Hazard Class: 9
Identification Number: UN3082
Label Codes: 9
Packing Group: III

In Accordance with IMDG
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1-Dodecanol)
SAFETY DATA SHEET, AL-1298

SECTION 14: TRANSPORT INFORMATION

| Hazard Class | 9 |
| Identification Number | UN3082 |
| Packing Group | III |
| Label Codes | 9 |
| EmS-No. (Fire) | F-A |
| EmS-No. (Spillage) | S-F |

In Accordance with IATA

| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1-Dodecanol) |
| Packing Group | III |
| Identification Number | UN3082 |
| Hazard Class | 9 |
| Label Codes | 9 |
| ERG Code (IATA) | 9L |

In Accordance with TDG

| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1-Dodecanol) |
| Packing Group | III |
| Hazard Class | 9 |
| Identification Number | UN3082 |
| Label Codes | 9 |

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

| 1-Dodecanol (112-53-8) |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

US State Regulations

| 1-Dodecanol (112-53-8) |
| U.S. - Texas - Effects Screening Levels - Long Term |
| U.S. - Texas - Effects Screening Levels - Short Term |

Canadian Regulations

| AL-1298 (112-53-8) |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

| 1-Dodecanol (112-53-8) |
| Listed on the Canadian DSL (Domestic Substances List) |
| Listed on the Canadian IDL (Ingredient Disclosure List) |
| IDL Concentration 1 % |
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

| Revision Date | 06/10/2015 |
| Other Information | This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. |

CREMER Oleo Division
3117 Southside Avenue | Cincinnati, OH 45204 | (513) 471-7200 | Fax (513) 244-7775
Toll Free (877) 901-7262
SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

GHS Full Text Phrases:

<table>
<thead>
<tr>
<th>Aquatic Chronic 1</th>
<th>Hazardous to the aquatic environment - Chronic Hazard Category 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

Party Responsible for the Preparation of This Document

Peter Cremer North America, LP
1-513-471-7200
1-877-901-7262 (Toll Free)

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SOS NA Peter Cremer