

## 1. Identification

|   |  |                 |
|---|--|-----------------|
| <b>Product identifier</b>                                     | <b>AMMONYX LMDO</b>                                  |                 |
| <b>Other means of identification</b>                          |  |                 |
| <b>Product code</b>   | 1949   |                 |
| <b>Recommended use</b>  | Surfactant   |                 |
| <b>Recommended restrictions</b>                               | For industrial use only.                             |                 |
| <b>Manufacturer/Importer/Supplier/Distributor information</b> |  |                 |
| <b>Manufacturer</b>   |  |                 |
| <b>Company name</b>   | Stepan Company                                       |                 |
| <b>Address</b>  | 22 West Frontage Road<br>Northfield, IL 60093<br>USA |                 |
| <b>Telephone</b>  | General  | 1-847-446-7500  |
| <b>E-mail</b>   | Not available.                                       |                 |
| <b>Emergency phone number</b>                                 | Medical  | 1-800-228-5635  |
|   | Chemtrec   | 1-800-424-9300  |
|   | Chemtrec Int'l                                       | +1 703-527-3887 |

## 2. Hazard(s) identification

|                              |  |            |
|------------------------------|--|------------|
| <b>Physical hazards</b>      | Not classified.  |            |
| <b>Health hazards</b>        | Acute toxicity, oral                                   | Category 4 |
|                              | Skin corrosion/irritation                              | Category 2 |
|                              | Serious eye damage/eye irritation                      | Category 1 |
| <b>Environmental hazards</b> | Hazardous to the aquatic environment, acute hazard     | Category 2 |
|                              | Hazardous to the aquatic environment, long-term hazard | Category 3 |
| <b>OSHA defined hazards</b>  | Not classified.  |            |
| <b>Label elements</b>        |  |            |



|  |   |
|--|---|
| <b>Signal word</b>                               | Danger  |
| <b>Hazard statement</b>                          | Harmful if swallowed. Causes skin irritation. Causes serious eye damage. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.  |
| <b>Precautionary statement</b>                   |   |
| <b>Prevention</b>                                | Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.  |
| <b>Response</b>                                  | If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. |
| <b>Storage</b>                                   | Store away from incompatible materials.   |
| <b>Disposal</b>                                  | Dispose of contents/container in accordance with local/regional/national/international regulations.   |
| <b>Hazard(s) not otherwise classified (HNOC)</b> | None known.   |
| <b>Supplemental information</b>                  | None.   |

### 3. Composition/information on ingredients

#### Mixtures

| Chemical name                            | Common name and synonyms | CAS number | %         |
|--|--------------------------|------------|-----------|
| Water                                    |                          | 7732-18-5  | 60 - < 70 |
| Lauramidopropylamine Oxide               |                          | 61792-31-2 | 20 - < 30 |
| (C14) Myristamidopropylamine Oxide       |                          | 67806-10-4 | 5 - < 10  |
| Other components below reportable levels |                          |            | < 1       |

### 4. First-aid measures

|   |  |
|---|--|
| <b>Inhalation</b>   | Move to fresh air. Call a physician if symptoms develop or persist.  |
| <b>Skin contact</b>   | Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.   |
| <b>Eye contact</b>  | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.  |
| <b>Ingestion</b>  | Rinse mouth. Do not induce vomiting. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  |
| <b>Most important symptoms/effects, acute and delayed</b>                     | Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.   |
| <b>Indication of immediate medical attention and special treatment needed</b> | Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.  |
| <b>General information</b>  | In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

### 5. Fire-fighting measures

|  |   |
|--|---|
| <b>Suitable extinguishing media</b>                                  | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).                                   |
| <b>Unsuitable extinguishing media</b>                                | Do not use water jet as an extinguisher, as this will spread the fire.                        |
| <b>Specific hazards arising from the chemical</b>                    | During fire, gases hazardous to health may be formed.   |
| <b>Special protective equipment and precautions for firefighters</b> | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| <b>Fire fighting equipment/instructions</b>                          | Move containers from fire area if you can do so without risk.                                 |
| <b>Specific methods</b>  | Use standard firefighting procedures and consider the hazards of other involved materials.    |
| <b>General fire hazards</b>  | No unusual fire or explosion hazards noted.   |

### 6. Accidental release measures

|  |   |
|--|---|
| <b>Personal precautions, protective equipment and emergency procedures</b> | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.   |
| <b>Methods and materials for containment and cleaning up</b>               | Prevent entry into waterways, sewer, basements or confined areas.<br><br>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.<br><br>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.<br><br>Never return spills to original containers for re-use. |
| <b>Environmental precautions</b>   | Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.  |

## 7. Handling and storage

|   |  |
|---|--|
| <b>Precautions for safe handling</b>                                | Do not get this material in contact with eyes. Do not taste or swallow. Avoid contact with skin. Avoid contact with clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains. Observe good industrial hygiene practices. |
| <b>Conditions for safe storage, including any incompatibilities</b> | Store in original tightly closed container.  |

## 8. Exposure controls/personal protection

|  |  |
|--|--|
| <b>Biological limit values</b>   | No biological exposure limits noted for the ingredient(s).   |
| <b>Appropriate engineering controls</b>                                      | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product. |
| <b>Individual protection measures, such as personal protective equipment</b> |  |
| <b>Eye/face protection</b>   | Wear safety glasses with side shields (or goggles) and a face shield.  |
| <b>Skin protection</b>   |  |
| <b>Hand protection</b>   | Wear appropriate chemical resistant gloves.  |
| <b>Other</b>   | Wear appropriate chemical resistant clothing.  |
| <b>Respiratory protection</b>  | In case of insufficient ventilation, wear suitable respiratory equipment.  |
| <b>Thermal hazards</b>   | Wear appropriate thermal protective clothing, when necessary.  |
| <b>General hygiene considerations</b>  | When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.  |

## 9. Physical and chemical properties

|   |  |
|---|--|
| <b>Appearance</b>                                   |  |
| <b>Physical state</b>                               | Liquid.  |
| <b>Form</b>   | Liquid.  |
| <b>Color</b>  | Not available.                                   |
| <b>Odor</b>   | Not available.                                   |
| <b>Odor threshold</b>                               | Not available.                                   |
| <b>pH</b>   | 7 - 9 (10% in water)                             |
| <b>Melting point/freezing point</b>                 | Not available.                                   |
| <b>Initial boiling point and boiling range</b>      | > 212 °F (> 100 °C)                              |
| <b>Flash point</b>                                  | > 201.0 °F (> 93.9 °C) Pensky-Martens Closed Cup |
| <b>Evaporation rate</b>                             | Not available.                                   |
| <b>Flammability (solid, gas)</b>                    | Not available.                                   |
| <b>Upper/lower flammability or explosive limits</b> |  |
| <b>Flammability limit - lower (%)</b>               | Not available.                                   |
| <b>Flammability limit - upper (%)</b>               | Not available.                                   |
| <b>Explosive limit - lower (%)</b>                  | Not available.                                   |
| <b>Explosive limit - upper (%)</b>                  | Not available.                                   |
| <b>Vapor pressure</b>                               | Not available.                                   |
| <b>Vapor density</b>                                | Not available.                                   |
| <b>Relative density</b>                             | Not available.                                   |
| <b>Solubility(ies)</b>                              |  |
| <b>Solubility (water)</b>                           | Not available.                                   |
| <b>Auto-ignition temperature</b>                    | Not available.                                   |

|                                  |                   |
|----------------------------------|-------------------|
| <b>Decomposition temperature</b> | Not available.    |
| <b>Viscosity</b>                 | 45 cP @ 25C       |
| <b>Other information</b>         |                   |
| <b>Density</b>                   | 8.34 lb/gal @ 25C |
| <b>Percent volatile</b>          | 64 - 68 % w/w     |
| <b>Pour point</b>                | 24.8 °F (-4 °C)   |

## 10. Stability and reactivity

|   |   |
|---|---|
| <b>Reactivity</b>                         | The product is stable and non-reactive under normal conditions of use, storage and transport.   |
| <b>Chemical stability</b>                 | Material is stable under normal conditions.   |
| <b>Possibility of hazardous reactions</b> | No dangerous reaction known under conditions of normal use.   |
| <b>Conditions to avoid</b>                | Avoid temperatures exceeding the flash point. Contact with incompatible materials.  |
| <b>Incompatible materials</b>             | Strong oxidizing agents. Nitrous acid and other nitrosating agents  |
| <b>Hazardous decomposition products</b>   | Upon decomposition, this product may yield oxides of nitrogen and ammonia, carbon dioxide, carbon monoxide and other low molecular weight hydrocarbons. |

## 11. Toxicological information

### Information on likely routes of exposure

|                     |                                      |
|---------------------|--------------------------------------|
| <b>Inhalation</b>   | Prolonged inhalation may be harmful. |
| <b>Skin contact</b> | Causes skin irritation.              |
| <b>Eye contact</b>  | Causes serious eye damage.           |
| <b>Ingestion</b>    | Harmful if swallowed.                |

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

**Acute toxicity** Harmful if swallowed.

| Product       | Species | Test Results     |
|---------------|---------|------------------|
| AMMONYX LMDO  |         |                  |
| <b>Acute</b>  |         |                  |
| <b>Dermal</b> |         |                  |
| LD50          | Rabbit  | > 2000 mg/kg     |
| <b>Oral</b>   |         |                  |
| LD50          | Rat     | 500 - 1000 mg/kg |

**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Causes serious eye damage.

### Respiratory or skin sensitization

|                                  |   |
|----------------------------------|---|
| <b>Respiratory sensitization</b> | Not available.  |
| <b>Skin sensitization</b>        | This product is not expected to cause skin sensitization. |

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

#### US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not applicable.

**Specific target organ toxicity - repeated exposure** Not applicable.

**Aspiration hazard** Not applicable.

## 12. Ecological information

**Ecotoxicity** Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

| Product        | Species | Test Results              |
|----------------|---------|---------------------------|
| AMMONYX LMDO   |         |                           |
| <b>Aquatic</b> |         |                           |
| <i>Acute</i>   |         |                           |
| Algae          | EC50    | Algae 3.4 mg/l, 72 hours  |
| Crustacea      | EC50    | Daphnia 16 mg/l, 48 hours |
| Fish           | LC50    | Fish 18 mg/l, 96 hours    |

**Persistence and degradability** Readily biodegradable.

**Bioaccumulative potential** No data available.

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal instructions** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

**DOT**  
Not regulated as dangerous goods.

**IATA**  
Not regulated as dangerous goods.

**IMDG**  
Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### Toxic Substances Control Act (TSCA)

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

### SARA 304 Emergency release notification

Not regulated.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** Yes  
**Classified hazard categories** Acute toxicity (any route of exposure)  
Skin corrosion or irritation  
Serious eye damage or eye irritation

**SARA 313 (TRI reporting)**  
Not regulated.

#### Other federal regulations

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**  
Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**  
Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

#### US state regulations

##### California Proposition 65



**WARNING:** This product can expose you to chemicals including Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

##### California Proposition 65 - CRT: Listed date/Developmental toxin

Methanol (CAS 67-56-1)

Listed: March 16, 2012

#### International Inventories

| Country(s) or region        | Inventory name  | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Australia                   | Australian Inventory of Chemical Substances (AICS)                | Yes                    |
| Canada                      | Domestic Substances List (DSL)                                    | Yes                    |
| Canada                      | Non-Domestic Substances List (NDSL)                               | No                     |
| China                       | Inventory of Existing Chemical Substances in China (IECSC)        | No                     |
| Japan                       | Inventory of Existing and New Chemical Substances (ENCS)          | No                     |
| New Zealand                 | New Zealand Inventory (NZIoC)                                     | Yes                    |
| Philippines                 | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No                     |
| Taiwan                      | Taiwan Inventory (TCSI)   | Yes                    |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory                     | Yes                    |

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 07-02-2014  
**Revision date** 12-02-2019  
**Version #** 05  
**HMIS® ratings** Health: 3  
Flammability: 1  
Physical hazard: 0  
**NFPA ratings** Health: 3  
Flammability: 1  
Instability: 0

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**Revision information**

Hazard(s) identification: Prevention  
Composition / Information on Ingredients: Ingredients  
Transport Information: Material Transportation Information  
Regulatory Information: United States  
Other information, including date of preparation or last revision: References  
HazReg Data: International Inventories  
GHS: Classification