1. Company and Product Identification

1.1 Identification – Product Name: MC-L011

1.2 Other means of identification

1.3 Synonym:

1.4 Recommended Use Of The Chemical and Restrictions On Use:

Use only as directed on the label.

Anderson Chemical Company

Name, Address, And Telephone Number Of The Manufacturer, Or Other Responsible Party:

325 South Davis Avenue Litchfield, MN 55355

(320) 693-2477

24 Hour Emergency No.:

1-800-424-9300 (United States)

2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** This product is a colorless to pale yellow liquid. Depending on the duration of contact, over-exposures can moderately to severely irritate the skin or eyes, or cause burns. This product is neither reactive nor flammable. Thermal decomposition of this product produces irritating vapors and toxic gases (e.g. carbon monoxide, carbon dioxide, nitrogen oxides, and sodium oxide). Emergency responders must wear personal protective equipment (and have appropriate fire-extinguishing protection) suitable for the situation to which they are responding.

Physical Hazards Summary

None

Potential Health Hazards Summary

Acute toxicity, Oral (Category 3), H301
Skin corrosion/Irritation (Category 1B), H315
Serious eye damage/Irritation (Category 2A), H319

Potential Ecological Effects Summary

The components of this product will decompose into other organic and inorganic compounds over time under normal environmental conditions

2.1 Classification Of Product

U.S. OSHA classification

Corrosive, Skin/eye irritant

Classification as per EC 1272/2008 (CLP/GHS)

Acute toxicity, Oral (Category 3)
Skin corrosion/Irritation (Category 2)
Serious eye damage/Irritation (Category 2A)

WHMIS classification

E, corrosive, D2B - Poisonous and infectious material - Other effects – Toxic
2.2 Label Elements OSHA/GHS

**General Warnings**
- P101: If medical advice is needed, have product container or label at hand.
- P102: Keep out of reach of children.
- P103: Read label before use
- P403: Store in a well-ventilated place.
- P233: Keep container tightly closed

**Signal Word**
- DANGER

**Hazard statements**
- H301: Toxic if swallowed
- H315: Causes skin irritation
- H319: Causes serious eye irritation
- H314: Causes severe skin burns and eye damage

**Precautionary statements**
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P305: IF IN EYES: rinse extensively with large amounts of water
- P351: Rinse cautiously with water for several minutes.
- P338+P310: Remove contact lenses, if present and easy to do. Continue rinsing.
- P301+P304+P312: IF INGESTED or INHALED Immediately call a POISON CENTER or doctor/physician.

2.3 Unclassified Hazards
- None

2.4 Ingredients with unknown acute toxicity
- None

### 3. COMPOSITION and INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>% w/w</th>
<th>US OSHA</th>
<th>GHS/EU CLP</th>
<th>WHMIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chelate Proprietary</td>
<td>25 - 30</td>
<td>Irritant</td>
<td>Eye Irritant, Category 2A</td>
<td>Class D2B: Toxic Material at &gt; 1%</td>
</tr>
<tr>
<td>Proprietary</td>
<td></td>
<td></td>
<td>H319 P305 + P351 + P338</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</td>
<td></td>
</tr>
<tr>
<td>Organic amine</td>
<td>10 – 15</td>
<td>Corrosive, Combustible liquid</td>
<td>Flammable liquids (Category 4) Acute toxicity, Dermal (Category 4) Skin corrosion (Category 1B) Serious eye damage (Category 1) Acute aquatic toxicity (Category 3) H227 Combustible liquid.</td>
<td>B3 Combustible E Corrosive</td>
</tr>
<tr>
<td>Proprietary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>Acute Toxicity</td>
<td>Skin Corrosion/Irritation</td>
<td>Eye Corrosion/Irritation</td>
<td>Acute Toxicity Oral</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------</td>
<td>----------------------------</td>
<td>--------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Surfactant</td>
<td>Corrosive, Combustible</td>
<td>5 - 10</td>
<td>Corrosive</td>
<td>Corrosive, Combustible</td>
</tr>
<tr>
<td>Chelate 2</td>
<td>Corrosive</td>
<td>5 - 10</td>
<td>Corrosive</td>
<td>Corrosive, Combustible</td>
</tr>
<tr>
<td>Emulsifier</td>
<td>Irritant</td>
<td>5 - 10</td>
<td>Corrosive</td>
<td>Corrosive, Combustible</td>
</tr>
<tr>
<td>Salt</td>
<td>Irritant</td>
<td>1 - 5</td>
<td>Corrosive</td>
<td>Corrosive, Combustible</td>
</tr>
</tbody>
</table>

**H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled**
**H314 Causes severe skin burns and eye damage.**
**H402 Harmful to aquatic life**

**P305 IF IN EYES: rinse extensively with large amounts of water**
**P351 Rinse cautiously with water for several minutes.**
**P338 Remove contact lenses, if present and easy to do. Continue rinsing.**
**P310 IF INGESTED or INHALED Immediately call a POISON CENTER or doctor/physician.**

**NE = Not Established. C = Ceiling Limit. See Section 16 for Definitions of Terms Used.**
4. FIRST-AID MEASURES

4.1 Description of Necessary Measures

Skin exposure: If this product contaminates the skin, immediately begin decontamination with running water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim should seek immediate medical attention if any adverse exposure symptoms develop.

Eye exposure: If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Victim must seek medical attention.

Inhalation: If mists of this product are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Remove or cover gross contamination to avoid exposure to rescuers.

Ingestion: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING. Have victim rinse mouth with water, if conscious. Never induce vomiting or give a diluent (e.g., water) to someone who is unconscious, having convulsions, or unable to swallow. If contaminated individual is convulsing, maintain an open airway and obtain immediate medical attention.

4.2 Most Important Symptoms/Effects: Immediate: Inhalation exposure may cause coughing or sneezing. Symptoms of skin and eye contact may include redness and irritation. Ingestion may cause stomach pains, cramps, and gastritis.

Delayed: Prolonged or repeated skin overexposure to this product may cause dermatitis (dry, red skin). Symptoms may include tingling, redness, and visible injury.

4.3 Indication Of Immediate Medical Attention And Special Treatment Needed, If Necessary:

TARGET ORGANS: Acute: Skin, eyes, respiratory system.

Chronic: Skin, eyes, respiratory system

Victims of chemical exposure must be taken for medical attention if any adverse effects occur. Rescuers should be taken for medical attention if necessary. Take a copy of label and SDS to physician or health professional with victim.

5. FIRE-FIGHTING MEASURES

Flammable properties Non-flammable aqueous solution

Flash Point °C: >150

Autoignition Temperature °C: Not applicable.

Flammable Limits (in air by volume, %):
Upper: Not applicable.
Lower: Not applicable.

5.1 Suitable And Unsuitable Extinguishing

This material will not contribute to the intensity of a fire. Use extinguishing
Media: material suitable to the surrounding fire.
- Water spray: YES
- Carbon dioxide: YES
- Foam: YES
- Dry chemical: YES
- Halon: YES
- Other: YES

5.2 Specific Hazards Arising From Chemical:
When involved in a fire, this material may decompose and produce irritating fumes and toxic gases (e.g., carbon monoxide, carbon dioxide, phosphorous oxides, and nitrogen oxides).
- Explosion Sensitivity to Mechanical Impact: Not applicable.
- Explosion Sensitivity to Static Discharge: Not applicable.

5.3 Special Protective Equipment And Precautions For Fire-Fighters:
Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions
Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area and protect people.

Protective equipment
For small releases (< 20 L), clean up spilled liquid wearing gloves, goggles, face shield, and suitable body protection. The minimum Personal Protective Equipment recommended for response to non-incidental releases (more than 20 L) should be Level C: triple-gloves (neoprene gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard hat, and full-face respirator with amine and HEPA filter.

Emergency procedures
Monitoring must indicate that exposure levels are below those provided in Section 8 (Exposure Controls-Personal Protection) and that oxygen levels are above 19.5% before anyone is permitted in the area without Self-Contained Breathing Apparatus.

6.2 Methods and Materials for Containment and Cleaning Up
Vacuum or soak-up solids liquid for recovery/disposal. Neutralize residue with sodium bicarbonate or other neutralizing agent for dilute caustics. Decontaminate the area thoroughly. Test area with litmus paper to ensure neutralization. Place all spill residues in a suitable plastic container. Dispose of in accordance with applicable U.S. Federal, State, or local procedures, or appropriate local standards (see Section 13, Disposal Considerations).

7. HANDLING and STORAGE

7.1 Precautions for Safe Handling
All employees who handle this material should be trained to handle it safely. Open containers carefully on a stable surface. Empty containers may contain residual liquid; therefore, empty containers should be handled with care.

As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this material. Avoid generating mist of this product. Remove contaminated clothing immediately.

During equipment maintenance follow practices indicated in Section 6 (Accidental Release Measures) to decontaminate equipment or clean-up small spills. Make certain that application equipment is locked and tagged-out safely if necessary. Collect all rinsates and dispose of according to applicable U.S. Federal, State, or local procedures or appropriate local standards.

7.2 Conditions For Safe Storage
Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials. Material should be stored in secondary containers, or in a diked area, as appropriate. Storage and use areas should be covered with impervious materials. Keep container tightly closed when not in use. If appropriate, post warning signs in storage and use areas. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

Incompatibilities
- Strong acids, oxidizers, and water reactive materials.
8. EXPOSURE CONTROLS - PERSONAL PROTECTION

8.1 Control Parameters

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS #</th>
<th>% w/w</th>
<th>EXPOSURE LIMITS IN AIR</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>ACGIH-TLVs</td>
<td>OSHA-PELs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA mg/m³</td>
<td>STEL mg/m³</td>
</tr>
<tr>
<td>Chelate Proprietary</td>
<td>25 - 30</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>Organic amine Proprietary</td>
<td>10 - 15</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>Octyl dimethylamine Oxide Proprietary</td>
<td>10 - 15</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>Chelate 2, Proprietary</td>
<td>5 - 10</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>Emulsifier Proprietary</td>
<td>5 - 10</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>Salt Proprietary</td>
<td>1 - 5</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
</tbody>
</table>

Water and other components which are present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers and mutagens).

Balance None of the other components contribute significant additional hazards at the concentration present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards and Canadian Workplace Hazardous Materials Identification System Standards (CPR 4).

8.2 Appropriate Engineering Controls.

Use with adequate ventilation to ensure exposure levels are maintained below the limits provided in this Section or as low as reasonably achievable. Ensure eyewash/safety shower stations are available near areas where this product is used.

8.3 Personal Protective Equipment

Respiratory protection: None needed under normal conditions of use. Use NIOSH approved respirators if ventilation is inadequate to control mists or vapor. If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations, or the applicable local standards. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-face piece pressure/demand SCBA or a full-face piece, supplied air respirator with auxiliary self-contained air supply is required under OSHA’s Respiratory Protection Standard (1910.134-1998).

Eye protection: Use approved safety goggles or safety glasses, as described in OSHA 29 CFR 1910.133. Splash goggles with a faceshield may be needed if splash hazards exist.

Hand protection: Wear chemical impervious gloves (e.g., Solvex™, Neoprene).

Body protection: If needed, use body protection appropriate for task (e.g., Tyvek™ suit, rubber apron) to protect from splashes and sprays.

9. PHYSICAL and CHEMICAL PROPERTIES

Appearance This product is a colorless to pale yellow liquid.

Odor Light ammonia odor Odor Threshold NE

Freezing Point °C < 0 pH (2% solution) 10.5 – 11.8

Initial Boiling Point °C > 100 Boiling Point Range °C N/A

Flammability Non-flammable Evaporation Rate (water = 1) Similar to water

Vapor Density (air = 1) >1 Vapor Pressure mm Hg @ 20°C: 18 - 20

Solubility (in water) Miscible Relative density (water = 1) 1.05 – 1.15

Viscosity Similar to water Oil-Water Partition Coefficient N/A

Decomposition Temperature NE

How To Detect This Substance (Warning Properties): Litmus paper will turn blue/purple in contact with this product.
10. STABILITY and REACTIVITY

10.1 Reactivity
Not considered reactive.

10.2 Chemical Stability
Stable

10.3 Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4 Conditions to avoid
Avoid mixing with incompatible materials.

10.5 Incompatible Materials
Strong acids, oxidizers, and water reactive materials. Aluminum and other metals reactive with caustic solutions

10.6 Hazardous Decomposition Products
Thermal decomposition of this product may generate nitrogen oxides, carbon monoxide, and carbon dioxide.

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Toxicity data for hazardous ingredients</th>
<th>Oral LD₅₀ mg/kg</th>
<th>Dermal LD₅₀ mg/kg</th>
<th>Inhalation LC₅₀ mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chelate</td>
<td>LD₅₀ (Intraperitoneal-Rat) 1548 mg/kg: Behavioral: convulsions or effect on seizure threshold; Lungs, Thorax, or Respiration: cyanosis; Gastrointestinal: changes in structure or function of salivary glands</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td></td>
<td>Standard Draize Test (Skin-Rabbit, adult) 500 mg/24 hours: Moderate irritation effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Standard Draize Test (Eye -Rabbit, adult) 1900 mg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Standard Draize Test (Eye-Rabbit, adult) 100 mg/24 hours: Moderate irritation effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inhaled LD₅₀</td>
<td>LD₅₀ (rabbit): 1851 mg/kg</td>
<td>Inhalation Response Time (rat) 8 hr; concentration not stated</td>
</tr>
<tr>
<td></td>
<td>Standard Draize Test (Skin-Rabbit, adult) 500 mg/24 hours: Moderate irritation effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eye and skin corrosive</td>
<td>STOT causes temporary irritation of respiratory tract</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not reported as a sensitizer.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Similar substances may cause organ damage on multiple exposures.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No mutagenic effects with bacterial or mammalian cell cultures. Not mutagenic to insects.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not considered a carcinogen</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Animal studies gave no indication of reproductive toxicity or teratogenicity.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surfactant</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chelate 2</td>
<td>Reported as not classified as harmful if swallowed</td>
<td>Reported as not classified as irritating to skin</td>
<td>No data available</td>
</tr>
<tr>
<td>Risk of serious damage to eyes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emulsifier</th>
<th>7200</th>
<th>&gt;2000</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt</td>
<td>Subcutaneous-Rat LDLo:3500 mg/kg Oral-Mouse LD50:4000 mg/kg Intraperitoneal-Mouse LD50:6614 mg/kg</td>
<td>Subcutaneous-Rat LDLo:3500 mg/kg Oral-Mouse LD50:4000 mg/kg Intraperitoneal-Mouse LD50:6614 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subcutaneous-Mouse LD50:3 g/kg Intravenous-Mouse LD50:645 mg/kg Intracervical-Mouse LD50:131 mg/kg Intraperitoneal-Dog, adult LDLo:364 mg/kg Intravenous-Dog, adult LDLo:2 g/kg Oral-Rabbit, adult LDLo:8 g/kg Intravenous-Rabbit, adult LDLo:1100 mg/kg</td>
<td>Subcutaneous-Mouse LD50:3 g/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subcutaneous-Guinea Pig, adult LDLo:2160 mg/kg Intravenous-Guinea Pig, adult</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Salt</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
</table>
| LDLo: 2910 mg/kg | Skin-Rabbit, adult 50 mg/24H  
Mild irritation effects | Skin-Rabbit, adult 500 mg/24H  
Mild irritation effects |
| --- | --- | --- |
| Eye effects-Rabbit, adult 100 mg  
Mild irritation effects | Eye effects-Rabbit, adult 100 mg/24H  
Moderate irritation effects | DNA Inhibition-Human: fibroblast 125 nmol/L  
Intraplacental-Woman TDLo:27 mg/kg  
(15W preg): Reproductive effects  
Intraperitoneal-Rat TDLo: 1710 mg/kg  
(female 13D post): Teratogenic effects  
Oral-Human TDLo: 12,357 mg/kg/23D-C: Cardiovascular effects |

### 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

<table>
<thead>
<tr>
<th>12.1 Ecotoxicity</th>
<th>LC$_{50}$, mg/L</th>
<th>EC$_{50}$, mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chelate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| LC$_{50}$ bluegill sunfish: 490 mg/L  
(Static 96 Hr) | LC$_{100}$ (Cyprinus carpio) 24 hours = 180 ppm/ at 25°C  
TLm (mosquito fish) 96 hours = 125 ppm/ (fresh water)  
TLm (bluegill) 48 hours = 99 mg/L/ (tap water)  
LC$_{50}$ (Lepomis macrochirus bluegill) 96 hours = 486 mg/L  
LC$_{50}$ (Lepomis macrochirus bluegill) 96 hours = > 500 mg/L  
LC$_{50}$ (Leuciscus Idus) 96 hours = > 500 mg/L  
LC$_{50}$ (Algae) 72 hours = 10-100 mg/L  
LC$_{50}$ (Daphnia) 24 hours > 100 mg/L | NE |
| Terrestrial | NE | NE |

**Organic amine**

Aquatic  
LC$_{50}$ (96 h) > 215 - < 464 mg/L, Leuciscus idus  
EC$_{50}$ (48 h) 108.8 mg/l, Daphnia magna  
EC$_{50}$ (72 h) 32.7 mg/l (growth rate), Scenedesmus subspicatus  
EC$_{50}$ (72 h) 15.1 mg/l (growth rate), Scenedesmus subspicatus

Terrestrial  
If released to soil, Organic amine is expected to biodegrade fairly rapidly following acclimatization, with a half-life on the order of days to week. Organic amine will leach in soil to groundwater. Volatilization is not a significant fate process from the soil.

**Chelate 2**

Aquatic  
LC$_{50}$ - 96 h: 23 - 53.7 mg/l - Leuciscus idus  
(Golden orfe)  
EC$_{50}$ - 48 h: 51.3 mg/l - Daphnia magna  
(Water flea)

Information given is based on data obtained from similar substances.
12.2 Persistence and Degradability
The components of this product decompose in soil and water.

12.3 Bioaccumulative Potential
This product is not expected to bioaccumulate.

12.4 Mobility in Soil
When spilled onto soil, this product will infiltrate downward.

12.5 Other Adverse Ecological Effects
This product may be harmful to aquatic life if large volumes of it are released into an aquatic environment.

13. DISPOSAL CONSIDERATIONS

Preparing Wastes of this Product for Disposal
Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations or with local regulations. This product, if unaltered by the handling, may be disposed of by treatment at a permitted facility or as advised by your local waste regulatory authority.

Disposal of Contaminated Packaging
Cleaned containers can be recycled or disposed of as non-contaminated waste, if authorized by your local authorities. Dispose of containers as required by local regulations.

U.S. EPA Waste Number
N/A to product as supplied. State and local regulations may apply.

14. TRANSPORT INFORMATION
THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

14.1 UN Number
UN 2735

14.2 UN Proper Shipping Name
Amines, liquid corrosive, n.o.s. (contains Isopropanolamine and Octyl dimethylamine Oxide), 8, PG II

14.3 Transport Hazard Class(es)
Transport label(s) required 8, Corrosive

14.4 Packing Group
PG III

14.5 Marine Pollutant
Not regulated


14.6 Transport in Bulk (Annex II of MARPOL 73/78 and IBC Code)
IBC02/T11

14.7 Special Transport Precautions
National Motor Freight Classification #70

International Air Transport Association

14.8 UN Number
UN 2735

UN Proper Shipping Name
Amines, liquid corrosive, n.o.s. (contains Isopropanolamine and Octyl dimethylamine Oxide), 8, PG II

Transport Hazard Class(es)
Transport label(s) required 8, Corrosive

Packing Group PG III

Packaging Instructions 855

International Maritime Organization

14.9 UN Number
UN 2735

UN Proper Shipping Name
Amines, liquid corrosive, n.o.s. (contains Isopropanolamine and Octyl dimethylamine Oxide), 8, PG II

Transport Hazard Class(es)
Transport label(s) required: 8, Corrosive
Packing Group: PG III
Marine Pollutant: Not regulated
Transport in Bulk (Annex II of MARPOL 73/78 and IBC Code): IBC02/T11

## 15. SAFETY, HEALTH and ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE PRODUCT

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>Chelate</th>
<th>Chelate 2</th>
<th>Emulsifier</th>
<th>Surfactant</th>
<th>Salt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Air Act Hazardous Air Pollutants</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Safe Drinking Water Act</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>RCRA F, K, P, U or D-lists</td>
<td>NO</td>
<td>NO</td>
<td>D002</td>
<td>D002</td>
<td>NO</td>
</tr>
<tr>
<td>EPA Priority Pollutant</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>SARA 302 RQ</td>
<td>NO</td>
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**US EPA PROGRAMS**

**Clean Air Act Hazardous Air Pollutants**: NO
**Safe Drinking Water Act**: NO
**RCRA F, K, P, U or D-lists**: NO
**EPA Priority Pollutant**: NO
**SARA 302 RQ**: NO
**SARA 302 TPQ**: NO
**SARA 313 LISTED**: NO
**SARA CHEMICAL CATEGORIES**:

- **SARA 311/312 ACUTE**: NO
- **SARA 311/312 CHRONIC**: NO
- **SARA 311/312 FIRE**: NO
- **SARA 311/312 PRESSURE**: NO
- **SARA 311/312 REACTIVITY**: NO
- **EPA EXTREMELY HAZARDOUS SUBSTANCE**: NO

**CALIFORNIA SAFE DRINKING WATER ACT (Proposition 65)**
This product does not contain any chemical listed on the California Safe Drinking Water Act list (Proposition 65)

**US OSHA PROGRAMS**

- **PEL**: NO
- **PSM**: NO

**CHEMICAL SECURITY PROGRAMS**

- **DHS CFATS**: NO

**CHEMICAL WEAPONS CONVENTION**

- **NO**: NO

**US DRUG ENFORCEMENT ADMINISTRATION**

- **DEA Controlled Substances**: NO

**CHEMICAL INVENTORY PROGRAMS**

- **WHMIS**: D2B
- **DSL**: YES
- **NDSL**: N/A
- **REACH Pre-registered List**: YES
- **TSCA**: YES
- **European Inventory of Existing Commercial Chemical Substances (EINECS)**: YES
| EU No-Longer Polymers List (NLP) | N/A | N/A | N/A | N/A | N/A | N/A |
| EEC Classification Packaging, and Labeling of Dangerous Substances(Annex 1) | N/A | N/A | N/A | N/A | N/A | N/A |
| Philippines | YES | YES | YES | YES | YES | YES |
| Japan | YES | YES | YES | YES | YES | YES |
| Australia | YES | YES | YES | YES | YES | YES |
| Korea | YES | YES | YES | YES | YES | YES |
| China | YES | YES | YES | YES | YES | YES |
| New Zealand Inventory of Chemicals | YES | YES | YES | YES | YES | YES |

16. OTHER INFORMATION

16.1 Original Preparation 28 Aug 2013
16.2 Revision History 30 Nov 2014 GHS; 9 January 2016, reformulation October 7, 2016, Content corrections
16.3 Prepared by lmt
A large number of abbreviations and acronyms appear on a SDS. Some of these which are commonly used include the following:

**Section 2**
- GHS: Global Harmonization System
- OSHA: U.S. Occupational Safety and Health Administration.
- CLP: Classification and Packaging
- WHMIS: Workplace Hazardous Materials Information System
- STOX: Specific Target Organ Toxicity.

**Section 3**
- CAS #: Chemical Abstract Service index number
- EINECS #: European Chemical Substances Information System index number

**Section 5**
- NFPA: Nation Fire Protection Association
  - **Health Hazard:** 0 (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); 1 (materials that on exposure under fire conditions could cause irritation or minor residual injury); 2 (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); 3 (materials that on short exposure could cause serious temporary or residual injury); 4 (materials that under very short exposure could cause death or major residual injury).
- **Reactivity Hazard:** Refer to definitions for “Hazardous Materials Identification System”.
- **Flash Point:** Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air.
- **Autoignition Temperature:** The minimum temperature required to initiate combustion in air with no other source of ignition.
- **LEL:** The lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.
- **UEL:** The highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

**Section 8**
- ACGIH: American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits.
- TLV - Threshold Limit Value - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour Time Weighted Average (TWA), the 15-minute Short Term Exposure Limit, and the instantaneous Ceiling Level (C).
  - **Skin absorption effects must also be considered**.
- PEL - Permissible Exposure Limit - This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, “Vacated 1989 PEL,” is placed next to the PEL which was vacated by Court Order.
- IDLH - Immediately Dangerous to Life and Health - This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury. The DFG - MAK is the Republic of Germany’s Maximum Exposure Limit, similar to the U.S. PEL. NIOSH is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration (OSHA). NIOSH issues exposure guidelines called Recommended Exposure Levels (RELs). When no exposure guidelines are established, an entry of NE (Not Established) is made for reference.

**Section 11**
- LD₅₀: Lethal Dose (solids & liquids) which kills 50% of the exposed animals;
- LC₅₀: Lethal Concentration (gases) which kills 50% of the exposed animals;
- ppm: Concentration expressed in parts of material per million parts of air or water;
- mg/m³: Concentration expressed in weight of substance per volume of air;
- mg/kg: Quantity of material, by weight, administered to a test subject, based on their body weight in kg
- IARC - the International Agency for Research on Cancer;
- NTP - the National Toxicology Program,
- RTECS - the Registry of Toxic Effects of Chemical Substances,
- OSHA and CAL/OSHA;
  - IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used.
- TDL₅₀, the lowest dose to cause a symptom and
- TCL₀, the lowest concentration to cause a symptom;
- TDo, LD₅₀, and LDo, or TC, TCo, LCL₀, and LCo, the lowest dose (or concentration) to cause lethal or toxic effects.
- BEI - Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

**Section 12**
- LC₅₀ₑₒ: The lowest concentration in water which kills 50% of the test subjects.
- EC₅₀ₑₒ: The Effect Concentration in water at which 50% of the test species if affected.

**Section 13**
- USEPA Hazardous Waste Codes: refer to 40 CFR 261.20

**Section 14**
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- IMO: International Maritime Organization
- IBC Code: Merchant Shipping Code

**Section 15**
- RCRA: US Resource Conservation and Recovery Act
- SARA: US Superfund Amendments and Reauthorization Act
- DSL: Canadian Domestic Substances List
- NDSL: Canadian Non-Domestic Substances List
- REACH: European Registration, Evaluation, Authorization and Restriction of Chemicals list
- TSCA: US Toxic Substances Control Act