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

Product Name
SL-3380

Other means of identification
Product Code
327
UN/ID No.
UN3267
Synonyms
None

Recommended use of the chemical and restrictions on use
Recommended Use
Steam/Condensate Return Line Treatment.
Uses advised against
No information available

Manufacturer Address
Anderson Chemical Company, 325 South Davis Avenue, Litchfield, MN 55355 (320-693-2477)

Emergency telephone number
Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Flammable liquids</td>
<td>Category 4</td>
</tr>
</tbody>
</table>

Label elements

```
Appearance aqueous solution
Physical state liquid
Odor Amine
```

Danger

Hazard statements
Harmful if swallowed
Causes severe skin burns and eye damage
Suspected of damaging fertility or the unborn child
May cause respiratory irritation. May cause drowsiness or dizziness
Combustible liquid
Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Use only in well-ventilated areas
Keep away from flames and hot surfaces. - No smoking.

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see Section 4 on this label)
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 or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting
In case of fire: Use appropriate media to extinguish.

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other Information
* May be harmful in contact with skin
Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexylamine</td>
<td>108-91-8</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Morpholine</td>
<td>110-91-8</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>2-Diethylaminoethanol</td>
<td>100-37-8</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

Eye contact: Flush immediately with water for 15 minutes. Lift upper and lower eyelids for complete rinsing. Get immediate medical attention.

Skin Contact: Flush with water for 15 minutes. Get medical attention. Remove contaminated clothing and wash before reuse.

Inhalation: Remove victim from immediate source of exposure to fresh air. If breathing is difficult, administer oxygen if available. If victim is not breathing, administer CPR. If individual experiences nausea, headache, or dizziness, get immediate medical attention.

Ingestion: Rinse mouth with water. Give water to dilute. Do not induce vomiting. Get immediate medical attention. Never give anything by mouth to a semi-comatose, comatose, convulsing or unconscious person.
Most important symptoms and effects, both acute and delayed

Symptoms
Contact with the eyes or skin may cause severe irritation with possible burns with pain, excess blinking, redness, swelling, and tear production. May cause permanent eye damage. Toxic in contact with skin. Absorption through skin may be harmful. Causes severe skin irritation with pain, redness, and swelling. May cause burns with blister formation. Odor may cause nausea, vomiting, headache, and dizziness. Vapors are severely irritating to the eyes, nose and respiratory tract and may produce blurring of vision, eye injury, skin rashes, coughing, shortness of breath and breathing difficulties. Prolonged or repeated overexposure may result in lung damage. Ingestion may cause severe irritation and injury to the mouth, throat, and digestive tract. Ingestion may be fatal.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Water spray (fog). Carbon dioxide (CO2). Dry chemical.

Unsuitable extinguishing media
None known.

Specific hazards arising from the chemical
Dusts or fumes may form explosive mixtures in air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Closed containers may rupture (due to buildup of pressure) when exposed to extreme heat. Thermal decomposition can lead to release of irritating and toxic gases and vapors. If stock solution container breaks, the product should be handled with care as it is corrosive. Under fire conditions, toxic, corrosive fumes are emitted.

Explosion data
Sensitivity to Mechanical Impact None.
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
Evacuate nonessential personnel. Ventilate area. Wear appropriate personal protection equipment. Remove all sources of ignition.

Environmental precautions
See Section 12 for additional ecological information. Prevent run-off into ground or surface waters or sewers.

Methods for containment
Stop leak if you can do it without risk. Completely contain spilled material with dikes or sand bags, etc.

Methods for cleaning up
Recover as much material as possible into containers for disposal or reuse. Remaining material may be diluted with water and neutralized. Flush spill area with water. Neutralization products, both solid and liquid, must be recovered for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Advice on safe handling

Do not get in eyes, on skin, or clothing. Do not breathe vapors or mists. Do not ingest. Wash thoroughly after handling. Wear protective clothing/equipment. Use with adequate ventilation. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed and properly labeled. Containers that have been emptied will retain product residue and should be handled as if they were full. Store in a cool, dry, well-ventilated place away from incompatible materials. Wash hands before eating, drinking, using tobacco, applying make-up or using the toilet. Do not store, use, and/or consume foods, beverages, tobacco in areas where this product is stored.

Incompatible materials

Strong oxidizing agents. Strong acids. Halogens. Mixing with nitrites will form nitrosamines which are considered to be powerful cancer causing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexylamine</td>
<td>TWA: 10 ppm</td>
<td>(vacated) TWA: 10 ppm</td>
<td>TWA: 10 ppm</td>
</tr>
<tr>
<td>108-91-8</td>
<td></td>
<td>(vacated) TWA: 40 mg/m³</td>
<td>TWA: 40 mg/m³</td>
</tr>
<tr>
<td>Morpholine</td>
<td>TWA: 20 ppm</td>
<td>TWA: 20 ppm</td>
<td>IDLH: 1400 ppm</td>
</tr>
<tr>
<td>110-91-8</td>
<td></td>
<td>TWA: 70 mg/m³ (vacated)</td>
<td>TWA: 20 ppm</td>
</tr>
<tr>
<td></td>
<td>S*</td>
<td>TWA: 70 mg/m³</td>
<td>TWA: 7 mg/m³ (vacated)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL: 30 ppm</td>
<td>STEL: 105 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S*</td>
<td></td>
</tr>
<tr>
<td>2-Diethylaminoethanol</td>
<td>TWA: 2 ppm</td>
<td>TWA: 10 ppm</td>
<td>IDLH: 100 ppm</td>
</tr>
<tr>
<td>100-37-8</td>
<td></td>
<td>TWA: 10 ppm</td>
<td>TWA: 10 ppm</td>
</tr>
<tr>
<td></td>
<td>S*</td>
<td>TWA: 50 mg/m³</td>
<td>TWA: 50 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S*</td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear protective splash proof safety goggles. Additional full face protection is recommended if splashing is a possibility.

Skin and body protection

If contact is anticipated, wear protective clothing appropriate to use conditions.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
Physical state: liquid
Appearance: aqueous solution
Color: clear Pale amber

Odor: Amine
Odor threshold: No information available

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks - Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>11.6</td>
<td>1% Solution</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>185°F</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.975</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Soluble in water</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

Other Information

Softening point: No information available
Molecular weight: No information available
VOC Content (%): No information available
Density: No information available
Bulk density: No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
Strong oxidizing agents. Strong acids. Halogens. Mixing with nitrates will form nitrosamines which are considered to be powerful cancer causing agents.

Hazardous Decomposition Products

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Product Information: No data available
**Inhalation**
May cause irritation of respiratory tract.

**Eye contact**
Irritating to eyes. Risk of serious damage to eyes.

**Skin Contact**
Contact causes severe skin irritation and possible burns.

**Ingestion**
Can burn mouth, throat, and stomach.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD₅₀</th>
<th>Dermal LD₅₀</th>
<th>Inhalation LC₅₀</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexylamine 108-91-8</td>
<td>11 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Morpholine 110-91-8</td>
<td>1050 mg/kg (Rat)</td>
<td>310 mg/kg (Rabbit)</td>
<td>8000 ppm (Rat) 8 h</td>
</tr>
<tr>
<td>2-Diethylaminoethanol 100-37-8</td>
<td>1300 mg/kg (Rat)</td>
<td>1260 µL/kg (Rabbit)</td>
<td>-</td>
</tr>
</tbody>
</table>

**Information on toxicological effects**

**Symptoms**
No information available.

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

**Sensitization**
No information available.

**Germ cell mutagenicity**
No information available.

**Carcinogenicity**
No information available.

**Chemical Name**

<table>
<thead>
<tr>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexylamine 108-91-8</td>
<td>-</td>
<td>Group 3</td>
<td>-</td>
</tr>
<tr>
<td>Morpholine 110-91-8</td>
<td>-</td>
<td>Group 3</td>
<td>-</td>
</tr>
</tbody>
</table>

**Reproductive toxicity**
No information available.

**STOT - single exposure**
No information available.

**STOT - repeated exposure**
No information available.

**Aspiration hazard**
No information available.

**Numerical measures of toxicity - Product Information**

**Unknown Acute Toxicity**
0% of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document .

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexylamine 108-91-8</td>
<td>20: 96 h Pseudokircheriella subcapitata mg/L EC₅₀ static 20: 96 h Pseudokircheriella subcapitata mg/L EC₅₀</td>
<td>44 - 90: 96 h Oncorhynchus mykiss mg/L LC₅₀ 470: 96 h Brachydanio rerio mg/L LC₅₀ static</td>
<td>49: 24 h Daphnia magna mg/L EC₅₀</td>
</tr>
<tr>
<td>Morpholine 110-91-8</td>
<td>28: 96 h Pseudokircheriella subcapitata mg/L EC₅₀ static</td>
<td>350: 96 h Lepomis macrochirus mg/L LC₅₀ static 375 - 460: 96 h Oncorhynchus mykiss mg/L LC₅₀ 1000: 96 h Brachydanio rerio mg/L LC₅₀ static</td>
<td>100: 24 h Daphnia magna mg/L EC₅₀</td>
</tr>
<tr>
<td>2-Diethylaminoethanol 100-37-8</td>
<td>30: 72 h Desmodesmus subspicatus mg/L EC₅₀</td>
<td>1660 - 1920: 96 h Pimephales promelas mg/L LC₅₀ flow-through 100 - 220: 96 h Leuciscus idus mg/L LC₅₀ static</td>
<td>83.6: 48 h Daphnia magna Straus mg/L EC₅₀</td>
</tr>
</tbody>
</table>

**Persistence and degradability**
No information available.
Bioaccumulation
No information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexylamine 108-91-8</td>
<td>1.2</td>
</tr>
<tr>
<td>Morpholine 110-91-8</td>
<td>-2.55</td>
</tr>
<tr>
<td>2-Diethylaminoethanol 100-37-8</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOT Regulated

UN/ID No. UN3267

Proper shipping name Corrosive liquid, basic, organic, N.O.S.

Hazardous ingredients (Cyclohexylamine, Diethylaminoethanol)

Hazard Class 8

Packing Group III

15. REGULATORY INFORMATION

International Inventories

TSCA Complies

DSL/NDSL Complies

EINECS/ELINCS Complies

ENCS Does not comply

IECSC Complies

KECL Complies

PICCS Complies

AICS Complies

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

US 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: Yes
- Chronic Health Hazard: No
- Fire hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

CWA (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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexylamine 108-91-8</td>
<td>-</td>
<td>10000 lb</td>
<td>-</td>
</tr>
</tbody>
</table>

US State Regulations

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

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexylamine 108-91-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Morpholine 110-91-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2-Diethylaminoethanol 100-37-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information
EPA Pesticide Registration Number Not Applicable

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards 3</th>
<th>Flammability 1</th>
<th>Instability 0</th>
<th>Physical and Chemical Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIS</td>
<td>Health hazards 3</td>
<td>Flammability 1</td>
<td>Physical hazards 0</td>
<td>Personal protection X</td>
</tr>
</tbody>
</table>

Prepared By: lmt
Issue Date: 12-Nov-2014
Revision Date: 22-Dec-2015
Revision Note: No information available

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
End of Safety Data Sheet