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

Product Name SL-3020

Other means of identification
Product Code 243
UN/ID No. UN1760
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
Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1

Label elements

Emergency Overview

Danger

Hazard statements
Causes severe skin burns and eye damage

Appearance aqueous solution Physical state liquid Odor Amine

Precautionary Statements - Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

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: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage
Store locked up

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

Hazards not otherwise classified (HNOC)
Other Information
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>Morpholine</td>
<td>110-91-8</td>
<td>20</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. If irritation persists after rinsing, get medical attention. Remove contaminated clothing and wash before reuse.

Inhalation
Remove victim to fresh air. If breathing difficulty occurs or persists, get 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
Causes eye irritation, possibly a burn with pain, excess blinking, redness, swelling, and tear production. May cause permanent eye damage. Causes severe skin irritation with pain, redness, and swelling. May cause burns with blister formation. Vapor or mist inhalation may cause irritation including coughing and discomfort in nose and throat. Prolonged or repeated overexposure may result in lung damage. Ingestion causes burns of the mouth, throat, and stomach with abdominal pain, nausea, vomiting, diarrhea, thirst, weakness and collapse.

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
Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
If the stock solution container breaks, the solution should be handled with care as it is corrosive.
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.

Methods for containment
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. Strong bases. 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>Morpholine</td>
<td>TWA: 20 ppm S*</td>
<td>TWA: 20 ppm TWA: 70 mg/m³ (vacated) TWA: 70 mg/m³ (vacated) TWA: 70 mg/m³ (vacated) STEL: 30 ppm (vacated) STEL: 105 mg/m³ (vacated) S* S*</td>
<td>IDLH: 1400 ppm TWA: 20 ppm TWA: 70 mg/m³ STEL: 30 ppm STEL: 105 mg/m³</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**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical state</strong></td>
<td>liquid</td>
<td></td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>aqueous solution</td>
<td></td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>clear colorless</td>
<td></td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Amine</td>
<td></td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>11.8</td>
<td>1% Solution</td>
</tr>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Boiling point / boiling range</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability Limit in Air</strong></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><strong>Vapor pressure</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>0.996</td>
<td></td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>Soluble in water</td>
<td></td>
</tr>
<tr>
<td><strong>Solubility in other solvents</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Partition coefficient</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Autoignition temperature</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Kinematic viscosity</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Dynamic viscosity</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

**Other Information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Softening point</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Molecular weight</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>VOC Content (%)</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Bulk density</strong></td>
<td>No information available</td>
</tr>
</tbody>
</table>

### 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
Extremes of temperature and direct sunlight.

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

Hazardous Decomposition Products
Nitrogen oxides (NOx). Carbon monoxide. Carbon dioxide (CO2).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Product Information</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<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>
</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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morpholine 110-91-8</td>
<td>-</td>
<td>Group 3</td>
<td>-</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
### 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.: UN1760
  - Proper shipping name: Corrosive Liquid, N.O.S.
  - Hazardous ingredients: (morpholine)
  - Hazard Class: 8
  - Packing Group: II

### 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
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

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>Morpholine 110-91-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

NFPA
- Health hazards: 3
- Flammability: 1
- Instability: 0
- Physical and Chemical Properties:

HMIS
- Health hazards: 3
- Flammability: 1
- Physical hazards: 0
- Personal protection: X

Prepared By: lmt
Issue Date: 11-Nov-2014
Revision Date: 11-Nov-2014
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