Safety Data Sheet
KR-L1121

1. IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>KR-L1121</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Proprietary metalworking solution</td>
</tr>
<tr>
<td>Date</td>
<td>August 14th, 2015</td>
</tr>
</tbody>
</table>
| Supplier address  | Suite 450  
|                   | One North Shore Center 12  
|                   | Federal Street  
|                   | Pittsburgh, PA 16212 |
| Telephone numbers |           |
| Company Phone Number | (412) 321-9800 |
| Emergency Telephone | CHEMTREC 800-424-9300 |

2. HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>Hazard classification</th>
<th>Skin Irritation, Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eye Irritation, Category 2A</td>
</tr>
<tr>
<td>Signal word</td>
<td>Warning</td>
</tr>
<tr>
<td>Hazard statements</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td></td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Pictograms of related hazards</td>
<td>![Exclamation Mark]</td>
</tr>
</tbody>
</table>

Precautionary statements

Prevention
- Wash skin thoroughly after handling.
- Wear protective gloves, protective clothing, eye protection, and face protection.

Response
- IF ON SKIN: Wash with soap and water.
- If skin irritation occurs: Get medical attention.
- Take off contaminated clothing and wash it before reuse.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately contact a POISON CENTER or health care provider.
- If eye irritation persists: Get medical attention.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diglycolamine</td>
<td>929-06-6</td>
<td>1–10</td>
</tr>
<tr>
<td>Non-hazardous substances</td>
<td>Proprietary</td>
<td>&gt;90</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally to ensure complete rinsing. Remove contact lenses if present and easy to do, then resume rinsing. Get medical attention immediately.

Skin contact
Remove contaminated clothing and wash the affected area with soap and water. Wash contaminated clothing before reuse.

Ingestion
If swallowed, DO NOT induce vomiting. Rinse mouth and get emergency medical attention. Do not give anything by mouth unless instructed to do so by a poison center or health care provider.

Inhalation
If inhaled, move victim to fresh air. Seek emergency medical attention if breathing is difficult; perform artificial respiration if breathing stops.

Note to health care provider
Esophageal corrosion may contraindicate the use of gastric lavage and/or activated charcoal.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing media appropriate for the surrounding fire.

Unsuitable extinguishing media
No information available

Protective equipment and precautions for firefighters
Stay upwind of the fire. Full protective equipment including self-contained breathing apparatus should be used. Use water to cool closed containers. Contain water runoff if possible.

Specific hazards
Combustion may produce toxic gases.

Hazardous combustion products
Carbon oxides, nitrogen oxides, sulfur oxides, phosphorous oxides, irritating vapor

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Evacuate the area of all non-essential personnel. Do not touch spilled material without proper protective equipment. Ventilate the area and mitigate further release if it is safe to do so. Avoid contact with eyes.

Methods for clean-up

Small spills
Contain spill and soak up with an inert absorbent material and place residues in a properly labeled container for disposal. Avoid discharge into sewer or surface water.
7. HANDLING AND STORAGE

Advice on safe handling
Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Wash hands thoroughly after handling.

Storage conditions
Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.

Suitable materials of construction
No information available

Unsuitable materials of construction
No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye/face protection
Chemical splash goggles, face shield

Skin protection
Chemical-resistant gloves and body-covering clothing

Respiratory protection
Observe published airborne exposure limits. NIOSH approved respirator should be used in accordance with OSHA respiratory protection requirements (29 CFR 1910.134).

Engineering controls
Adequate ventilation, eye-wash station, and emergency shower

General hygiene considerations
Do not eat, drink, or smoke while handling this product.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diglycolamine</td>
<td>None established</td>
<td>None established</td>
</tr>
<tr>
<td>Non-hazardous substances</td>
<td>None established</td>
<td>None established</td>
</tr>
</tbody>
</table>

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>8.0-10.0</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear Yellow liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>16.7°F (-8.5°C)</td>
</tr>
<tr>
<td>Initial boiling point/boiling range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Chemical stability
Stable under normal conditions of storage and handling.

Hazardous polymerization
Polymerization will not occur.

Conditions to avoid
Extreme temperatures, incompatibilities

Incompatibilities
Strong acids, oxidizers

Hazardous decomposition products
No information available

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure
Skin, eyes, ingestion

Acute toxicity
Diglycolamine

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD₅₀, Oral (rat)</td>
<td>3,000 mg/kg</td>
</tr>
<tr>
<td>LD₅₀, Oral (mouse)</td>
<td>2,825 mg/kg</td>
</tr>
<tr>
<td>LD₅₀, Dermal (rabbit)</td>
<td>&gt;3,000 mg/kg</td>
</tr>
<tr>
<td>Draize, Skin (rabbit)</td>
<td>Corrosive</td>
</tr>
<tr>
<td>Sensitization</td>
<td>Not a sensitizer</td>
</tr>
<tr>
<td>Ames Test</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>Unscheduled DNA synthesis test, Oral (rat)</td>
<td>Not genotoxic</td>
</tr>
</tbody>
</table>

Acute symptoms and effects

Eye
Eye irritation with or without pain, burning, itching, redness, discharge, and serious eye damage.

Skin
Skin irritation with or without pain, burning, itching, redness, and swelling. Symptoms may be exacerbated by open wounds, excoriations, rashes, or other skin breaches.

Ingestion
Gastrointestinal distress with or without nausea, vomiting, and diarrhea. May cause irritation or corrosion of the oral and esophageal mucosa.

Inhalation
Upper respiratory irritation with or without cough, watering of the eyes, and postnasal drip. Aspiration of liquid or vomit may cause severe respiratory distress, airway corrosion, and acute lung damage.

Reproductive effects
No information available

Teratogenicity
No information available
Safety Data Sheet

Product: KR-L1121

Mutagenicity
Embryotoxicity
Sensitization to product
Synergistic products
Carcinogenicity
Chronic

No information available
No information available
No information available
No information available
No components have been identified as carcinogenic by OSHA, NTP, or IARC.
No information available

12. ECOLOGICAL INFORMATION

Persistence
Bioaccumulative potential
Mobility

No information available
No information available
No information available

13. DISPOSAL CONSIDERATIONS

Disposal
RCRA status
Dispose of in accordance with federal, state, and local regulations.
As sold, discarded product would be considered a RCRA hazardous waste based on the corrosive characteristics. The EPA hazardous waste number is D002.

14. TRANSPORT INFORMATION

US Department of Transportation (DOT)
UN Number
Proper shipping name
Primary hazard class/division
Secondary hazard
Packing group
Label

Not regulated

15. REGULATORY INFORMATION

OSHA Hazard Communication Status
Skin Irritation, Category 2
Eye Irritation, Category 2A

EPA Registration Number
Not applicable

TSCA
The ingredients of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CERCLA

EPA Hazardous Substances (40 CFR 302)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diglycolamine</td>
<td>None</td>
</tr>
<tr>
<td>Non-hazardous substances</td>
<td>None</td>
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SARA Title III (Sections 302, 311, 312, and 313)

Section 302 Extremely Hazardous Substances (40 CFR 355)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS#</th>
<th>RQ</th>
<th>TPQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
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</tbody>
</table>
Section 311 and 312 Health and Physical Hazards

<table>
<thead>
<tr>
<th>Immediate</th>
<th>Delayed</th>
<th>Fire</th>
<th>Pressure</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Section 313 Toxic Chemicals (40 CFR 372)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Percent by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

HMIS Ratings  Health—1; Flammability—0; Reactivity—0
NFPA Ratings  Health—1; Flammability—0; Reactivity—0
HMIS/NFPA Rating Scale Minimal—0; Slight—1; Moderate—2; Serious—3; Severe—4
Version  1

Kroff urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the date shown. However, no warranty, expressed or implied, is given as to the results of the use of this information or the product to which it relates. Regulatory requirements are subject to change and may differ between various locations. It is the buyer’s /user’s responsibility to ensure that his activities comply with all federal, state, or local laws. Since conditions for use of this product are not under the control of the manufacturer, it is the buyer’s/user’s duty to determine the conditions necessary for the safe use of this product. Recipient assumes all responsibility for the use (alone or in combination with any other product), storage, or disposal of the product, including any resultant personal injury or property damage.

REVISED DATE: 8/14/15
PREPARER: K. Mercer