Material Safety Data Sheet

PRODUCTO™ RI-640

CORROSION INHIBITOR CONCENTRATE

DATE EFFECTIVE: 06-18-2010

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer: CIMCOOL® Industrial Products LLC
3000 Disney Street
Cincinnati, OH 45209 United States

Emergency: Telephone (USA): 1-800-424-9300 (CHEMTREC)
Telephone (Outside USA): 1-703-527-3887 (CHEMTREC)

General Information: Telephone: 1-513-458-8199
Generic Name: Water Soluble Corrosion Inhibitor Concentrate

2 EMERGENCY INFORMATION

Product is alkaline. Product may be a primary skin irritant. Product is a primary eye irritant. Highway spills could result in slippery conditions. No other significant health effects are associated with this material.

3 POTENTIAL HEALTH EFFECTS OF DIRECT EXPOSURE

<table>
<thead>
<tr>
<th>Inhalation:</th>
<th>Product</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Contact:</td>
<td>Product is a primary eye irritant.</td>
<td></td>
</tr>
<tr>
<td>Skin Contact:</td>
<td>Product may be a primary skin irritant.</td>
<td></td>
</tr>
<tr>
<td>Ingestion:</td>
<td>Not orally toxic.</td>
<td></td>
</tr>
</tbody>
</table>

Product at Use Dilution
Extended exposure to mist may cause upper respiratory irritation.

Will cause stinging sensation in the eye.

Not irritating to the skin when used as directed and good personal hygiene is practiced.

Swallowing small quantities may cause diarrhea, nausea or vomiting.

Medical Conditions generally aggravated by exposure
May aggravate existing skin irritation where further defatting or skin penetration could occur.

Skin irritation (redness and dryness of hands) may be experienced when the diluted product has been contaminated by certain oils, by dissolved metals, or when mix ratio is too strong. When problems occur, use of water-resistant barrier creams may be a temporary control measure. Contact CIMCOOL® Industrial Products LLC Technical Services at 1-513-458-8199 for specific recommendations.
When used in applications generating high levels of mist, operator exposure can be minimized by proper ventilation, use of mist collectors or splash guards, as appropriate. If there is doubt about actual mist levels present, monitoring should be conducted. Contact CIMCOOL® Industrial Products LLC at 1-513-458-8199 for specific recommendations.

Repeated excessive exposures to high amounts of triethanolamine may cause liver and kidney effects.

Carcinogen Listings: NTP: No IARC: No OSHA: No

Signs and symptoms of exposure

Acute
Eye injury may result from contact with product. Skin irritation can result from improper use and handling of product.

4 EMERGENCY AND FIRST AID PROCEDURES

Eyes
In case of eye contact, flush immediately with running water for at least 15 minutes, and get prompt medical attention.

Skin Contact
For skin contact flush with large amounts of water while removing contaminated clothing. Remove contaminated shoes and clothing and launder before reuse. If irritation persists, get medical attention.

Diluted product is not irritating to the skin when used as recommended and good personal hygiene is practiced.

Ingestion
If the material is swallowed, get immediate medical attention or advice. DO NOT INDUCE VOMITING. Give two glasses of water or milk. Immediately contact a physician and obtain treatment. Swallowing small quantities of diluted product may cause nausea, diarrhea or abdominal distress.

Inhalation
Inhalation can occur in applications where high mist levels are generated. OSHA has set a PEL of 15 mg/m³ for any airborne particulate as a nuisance level of exposure. NIOSH has set a REL of 0.5 mg/m³ for metalworking fluid mist. If symptoms are experienced, remove source of contamination or move victim to fresh air. If symptoms persist, get medical attention.

5 CONTROL MEASURES

Respiratory protection
Product is not volatile.

In metalworking fluid applications where time-weighted exposures are 0.5 to 5 mg/m³, mist reduction through improved ventilation, mist collection or process modification is recommended by NIOSH. Where this is not possible, NIOSH recommends the use of any air purifying, half-mask respirator including a disposable respirator, equipped with any P- or R-series particulate filter. If the average exposure will exceed 5 mg/m³, NIOSH recommends use of a powered, air-purifying respirator equipped with a hood or helmet and a HEPA filter. If respiratory problems are present when mist levels are < 0.5 mg/m³, respiratory protection should be based on the individual recommendation of a qualified health care provider.

Caution
The appropriate use and type of respirator is dependent upon use of the product and local operating conditions.
Ventilation
For most applications, adequate shop ventilation is needed. However, when high mist levels are generated or where machines are close together or ventilation is inadequate, operators may experience respiratory irritation. For such applications, use of splash guards or mist collectors is recommended.

Eye protection
Proper metalworking plant eye protection required when handling product concentrate.

Other protective clothing or equipment
Use effective metalworking plant protective clothing as appropriate.

Work / Hygiene Practices
Good personal hygiene should always be followed.

Protective Gloves
Impervious gloves, such as nitrile gloves, are recommended when handling product concentrate.

6 HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

These ingredients may contribute to the acute product hazards listed under the Potential Health Effects section. Other substances, not hazardous under the OSHA Hazard Communication Standard, may be present. Further composition information may be available to health professionals as provided in the Standard.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONOETHANOLAMINE</td>
<td>141-43-5</td>
<td>5 - 10</td>
</tr>
<tr>
<td>TRIETHANOLAMINE</td>
<td>102-71-6</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>

7 FIRE AND EXPLOSION HAZARD DATA

Extinguishing Media
Not Applicable

Hazardous Combustion Products
Smoke, fumes, oxides of nitrogen, and oxides of carbon

Flash Point: Not Applicable
Lower Explosive Limit: Not Applicable
Upper Explosive Limit: Not Applicable

HMIS RATINGS
Health 1
Flammability Classification 0
Reactivity 0

NFPA RATINGS
Health 1
Flammability Classification 0
Reactivity 0

8 ACCIDENTAL RELEASE MEASURES
Contain the spill, collect on absorbent material, and discard as dictated by Federal, state and local regulations that may apply. Flush area thoroughly with water.

Reportable Quantity: None
9 WASTE DISPOSAL

For Used Product
Disposal procedures must comply with local, county, state and Federal regulations. If pre-treatment is needed, ultrafiltration, emulsion breaking or evaporation may be used. Contact CIMCOOL® Industrial Products LLC at 1-513-458-8199 for assistance.

For Unused Product
Product is not a hazardous waste as defined under 40 CFR 261. Contact CIMCOOL® Industrial Products LLC at 1-513-458-8199 for assistance.

Empty Containers
Empty containers will contain a residue which is not considered a hazardous waste under RCRA regulations. Drums can be drained to a "drip dry" condition by inversion and can be offered for recycling or scrap.

10 HANDLING AND STORAGE

Avoid contact of product with eyes or skin. Wash thoroughly after handling. Do not swallow. Do not store product concentrate in direct sunlight or elevated temperatures. Use only as recommended by CIMCOOL® Industrial Products LLC. Protect from freezing.

Other Precautions
Contains amines. Do not add sodium nitrite or other nitrosating agents to this product because suspected cancer-causing nitrosamines may be formed.

11 PHYSICAL / CHEMICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td>212 °F (100 °C)</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.12</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Like water when diluted</td>
</tr>
<tr>
<td>Solubility (H2O)</td>
<td>100 % Miscible</td>
</tr>
<tr>
<td>Volatile Organic Content (by ASTM D2369)</td>
<td>8.5 %</td>
</tr>
<tr>
<td>pH (Concentrate)</td>
<td>10.7</td>
</tr>
<tr>
<td>pH (Mix)</td>
<td>9.6 @ 5.0%</td>
</tr>
<tr>
<td>Recommended Starting Dilution</td>
<td>5 %</td>
</tr>
<tr>
<td>Appearance/Odor</td>
<td>Clear/Chemical</td>
</tr>
</tbody>
</table>

12 REACTIVITY

Stability
Stable under normal conditions.

Conditions to avoid
Use as directed.

Materials to avoid
Avoid contact with strong acids or oxidizers to product.

Hazardous Polymerization
Will not occur.

Combustion Products
Smoke, fumes, oxides of nitrogen, and oxides of carbon
13 TRANSPORTATION INFORMATION

BY LAND
Hazardous Materials Description and Proper Shipping Name (49 CFR 172.101)
Not a Hazardous Material

BY AIR OR VESSEL
Hazardous Materials Description and Proper Shipping Name (49 CFR 172.101)
Not a Hazardous Material

14 REGULATORY INFORMATION

EXPOSURE GUIDELINES

<table>
<thead>
<tr>
<th>REGULATED MATERIAL</th>
<th>NIOSH REL</th>
<th>OSHA PEL</th>
<th>OSHA STEL</th>
<th>ACGIH TLV</th>
<th>ACGIH STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONOETHANOLAMINE</td>
<td>3 ppm</td>
<td>6 ppm</td>
<td>3 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRIETHANOLAMINE</td>
<td></td>
<td>5 mg/m³</td>
<td></td>
<td>6 ppm</td>
<td></td>
</tr>
</tbody>
</table>

CERCLA
No components of this product are present at levels which require reporting under 40 CFR 302.4.

EPCRA (SARA) TITLE III Extremely Hazardous Substances (302): None

Hazardous Substances (311/312)
Product is a hazardous substance as defined under the OSHA Hazard Communication Standard and may be reportable under the provisions of SARA Sections 311 and 312.

HAZARD CATEGORIES
Acute Health: Yes
Chronic Health: Yes
Fire: No
Sudden Release of Pressure: No
Reactive: No

RCRA
Product concentrate does not meet the definition of a hazardous waste as defined under 40 CFR 261. It is possible that in use, the product may be contaminated by metals or by chlorinated solvents and the final waste may meet the TCLP definition. Each facility should assess each waste stream to determine if the used fluid should be treated as a hazardous waste.

TSCA
The ingredients of this product are on the TSCA inventory.

State Right to Know
Many states have enacted Community Right-To-Know laws which require information beyond that mandated by federal laws. Since some of these laws are inconsistent with the federal laws, the information in this sheet may not fully meet the requirements of every state.

This product is subject to California’s South Coast Air Quality Management District Rule 1144; it may be sold since its VOC value is below the regulated level.

Toxic Substances (313)

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Max %</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
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</tr>
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</table>
GLOSSARY OF ABBREVIATIONS

ACGIH  American Conference of Governmental Industrial Hygenists
CAS  Chemical Abstracts Service
CERCLA  Comprehensive Environmental Response Compensation and Liability Act
CFR  Code of Federal Regulations
COC  Cleveland Open Cup
DOT  Department of Transportation
EPCRA  Emergency Planning and Community Right-to-Know Act (aka SARA)
IARC  International Agency for Research on Cancer
NIOSH  National Institute for Occupational Safety and Health
NTP  National Toxicology Program
OSHA  Occupational Safety and Health Administration
PEL  Permissible Exposure Limit
RCRA  Resource Conservation and Recovery Act
REC  Recommended
REL  Recommended Exposure Limit
SARA  Superfund Amendments and Reauthorization Act
STEL  Short-Term Exposure Limit
TCLP  Toxicity Characteristics Leaching Procedure
TLV  Threshold Limit Value
TSCA  Toxic Substances Control Act
VOC  Volatile Organic Compounds

Disclaimer

NOTE: The opinions expressed herein are those of qualified experts within CIMCOOL® Industrial Products LLC and of their suppliers. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and of these opinions and the condition and use of the product are not within the control of CIMCOOL® Industrial Products LLC, it is the user's obligation to determine the conditions of safe use of the product.