MATERIAL SAFETY DATA SHEET
N,N'-CARBONYLDIIMIDAZOLE

1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: N,N'-Carbonyldiimidazole
Synonyms: CDI
Company Identification: Sisco Research Laboratories Pvt. Ltd.
Andheri (East), Mumbai – 400 099.
Tel : +91 22 2687 2601
Fax : +91 22 2687 8241
Website : www.srlchem.com

2 - COMPOSITION, INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name:</th>
<th>%</th>
<th>EINECS#</th>
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<tbody>
<tr>
<td>530-62-1</td>
<td>N,N'-Carbonyldiimidazole</td>
<td>98%</td>
<td>208-488-9</td>
</tr>
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</table>

3 - HAZARDS IDENTIFICATION

Risk advice to man and the environment
Harmful if swallowed. Causes burns.

4 - FIRST AID MEASURES

Eyes: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Inhalation: If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.
General advice: Consult a physician. Show this safety data sheet to the doctor in attendance.

Notes to Physician:

5 - FIRE FIGHTING MEASURES

Extinguishing Media
Suitable: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special Protective Equipment For Firefighters: Wear self contained breathing apparatus for fire fighting if necessary.
### 6 - ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental precautions:** Do not let product enter drains.

**Methods for cleaning up:** Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

### 7 – HANDLING AND STORAGE

**Handling:** Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Storage:** Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Handle and store under inert gas. Hydrolyses readily.

### 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

**Engineering Controls:**

**General Hygiene Measures:**

**Personal Protective Equipment**

**Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand Protection:** Handle with gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it.

**Eye Protection:** Safety glasses

**Skin and body protection:** Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### 9 - PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Solid

**Molecular Formula:** $\text{C}_7\text{H}_6\text{N}_4\text{O}$

**Molecular Weight:** 162.15
10 - STABILITY AND REACTIVITY

Storage stability: Stable under recommended storage conditions. May decompose on exposure to moist air or water.

Conditions to avoid: Exposure to moisture.

Materials to avoid: Strong acids, Strong oxidizing agents, Strong bases, Amines

Hazardous decomposition products formed under fire conditions: Carbon oxides, nitrogen oxides (NOx)

11 - TOXICOLOGICAL INFORMATION

Acute toxicity: LD50 Oral - rat - 1.071 mg/kg

Irritation and corrosion: Skin - rabbit - Corrosive

Sensitisation: No data available

Chronic exposure: No data available

Potential Health Effects

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin: May be harmful if absorbed through skin. Causes skin burns.

Eyes: Causes eye burns.

Ingestion: Harmful if swallowed. Causes burns.

12 - ECOLOGICAL INFORMATION

Elimination information (persistence and degradability): No data available

Ecotoxicity effects: Toxicity to fish LC0 - Leuciscus idus (Golden orfe) - 250 mg/l - 48 h

Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia - 341.5 mg/l - 48 h

Further information on Ecology: No data available

13 - DISPOSAL CONSIDERATIONS

Product: Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging: Dispose of as unused product.
14 - TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Shipping Name:</th>
<th>IATA</th>
<th>IMO</th>
<th>RID/ADR</th>
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<td>Corrosive Solid, Basic, Organic, N.O.S.</td>
<td>Corrosive Solid, Basic, Organic, N.O.S.</td>
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<td>(1,1'-Carbonyldiimidazole)</td>
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<table>
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<td>II</td>
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</tbody>
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15 - REGULATORY INFORMATION

Labelling according to EC Directives

Hazard symbols: C Corrosive
R-phrase(s): R22 Harmful if swallowed.R34 Causes burns.
S-phrase(s): S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16 - ADDITIONAL INFORMATION

SISCO RESEARCH LABORATORIES provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.