IMIDAZOLE  
CAS NO 288-32-4

MATERIAL SAFETY DATA SHEET
SDS/MSDS

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers
Product name: Imidazole

CAS-No.: 288-32-4

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
Company: Central Drug House (P) Ltd
7/28 Vardaan House
New Delhi -110002
INDIA

Telephone: +91 11 49404040
Email: care@cdhfinechemical.com

1.4 Emergency telephone number
Emergency Phone #: +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Acute toxicity, Oral (Category 4), H302
Skin corrosion (Category 1B), H314
Reproductive toxicity (Category 1B), H360D

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word
Danger

Hazard statement(s)
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H360D May damage the unborn child.

Precautionary statement(s)
P201 Obtain special instructions before use.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
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/doctor.

Supplemental Hazard Statements
Restricted to professional users.

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
Synonyms : 1,3-Diaza-2,4-cyclopentadiene

Formula : C₃H₄N₂
Molecular weight : 68.08 g/mol
CAS-No. : 288-32-4
EC-No. : 206-019-2

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imidazole</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>288-32-4</td>
<td>Acute Tox. 4; Skin Corr. 1B; &lt;= 100 %</td>
</tr>
<tr>
<td>EC-No.</td>
<td>206-019-2</td>
<td>Repr. 1B; H302, H314, H360D</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available
SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides, Nitrogen oxides (NOx), Hydrogen cyanide (hydrocyanic acid)

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature 2 - 8 °C Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment
Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
**Skin protection**  
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection**  
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**  
Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If th full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**SECTION 9: Physical and chemical properties**

9.1 **Information on basic physical and chemical properties**

a) **Appearance**  
   Form: crystalline  
   Colour: white

b) **Odour**  
amine-like

c) **Odour Threshold**  
No data available

d) **pH**  
9 - 11 at 100 g/l at 23 °C

e) **Melting point/freezing point**  
89 - 91 °C

f) **Initial boiling point and boiling range**  
256 °C at 1,013 hPa

g) **Flash point**  
145 °C - closed cup

h) **Evaporation rate**  
No data available

i) **Flammability (solid, gas)**  
No data available

j) **Upper/lower flammability or explosive limits**  
No data available

k) **Vapour pressure**  
0.002 mmHg at 20 °C

l) **Vapour density**  
No data available

m) **Relative density**  
1.030 g/cm3

n) **Water solubility**  
633 g/l at 20 °C

o) **Partition coefficient: n-octanol/water**  
log Pow: -0.02 at 25 °C

p) **Auto-ignition temperature**  
No data available

q) **Decomposition temperature**  
No data available

r) **Viscosity**  
No data available

s) **Explosive properties**  
No data available

t) **Oxidizing properties**  
No data available
9.2 Other safety information

Bulk density 550 kg/m3
Dissociation constant 7.15 at 25 °C

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
acids, Acid anhydrides, Strong oxidizing agents

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Hydrogen cyanide (hydrocyanic acid)
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 970 mg/kg(Imidazole)

Skin corrosion/irritation
Skin - Rabbit(Imidazole)
Result: Causes burns.

Serious eye damage/eye irritation
No data available(Imidazole)

Respiratory or skin sensitisation
No data available(Imidazole)

Germ cell mutagenicity
Did not show mutagenic effects in animal experiments. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.(Imidazole)

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
Presumed human reproductive toxicant May damage the unborn child.(Imidazole)

Specific target organ toxicity - single exposure
No data available(Imidazole)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available(Imidazole)

Additional Information
RTECS: NI3325000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity
Toxicity to fish  static test LC50 - Leuciscus idus (Golden orfe) - 280 mg/l - 48 h(Imidazole)
Toxicity to daphnia and other aquatic invertebrates  EC50 - Daphnia (water flea) - 341.5 mg/l - 48 h(Imidazole)
Toxicity to algae  static test EC50 - Scenedesmus quadricauda (Green algae) - 133 mg/l - 72 h(Imidazole)
Toxicity to bacteria  see user defined free text - other microorganisms - 45 mg/l - 0.5 h(Imidazole)

12.2 Persistence and degradability
Biodegradability  aerobic - Exposure time 19 d(Imidazole)
Result: 86 % - Readily biodegradable

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available(Imidazole)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 3263  IMDG: 3263  IATA: 3263

14.2 UN proper shipping name
ADR/RID:  CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (Imidazole)
IMDG:  CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (Imidazole)
IATA:  Corrosive solid, basic, organic, n.o.s. (Imidazole)
14.3 Transport hazard class(es)
   ADR/RID: 8     IMDG: 8     IATA: 8
14.4 Packaging group
   ADR/RID: II    IMDG: II    IATA: II
14.5 Environmental hazards
   ADR/RID: no    IMDG Marine pollutant: no IATA: no
14.6 Special precautions for user
   No data available

SECTION 15: Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
   This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
   For this product a chemical safety assessment was not carried out

SECTION 16: Other information
Full text of H-Statements referred to under sections 2 and 3.
H302   Harmful if swallowed.
H314   Causes severe skin burns and eye damage.
H360D  May damage the unborn child.

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.