



***N,N*-DIMETHYL UREA  
CAS No 96-31-1**

**MATERIAL SAFETY DATA SHEET  
SDS/MSDS**

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

### 1.1 Product identifiers

Product name : *N,N*-Dimethyl Urea

CAS-No. : 96-31-1

### 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  
Ansari Road Daryaganj  
New Delhi -110002  
INDIA

Telephone : +91 11 49404040

Email : [care@cdhfinechemical.com](mailto: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

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

### 2.2 Label elements

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

### 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-Dimethylurea

Formula :  $C_3H_8N_2O$

Molecular weight : 88.11 g/mol

CAS-No. : 96-31-1

EC-No. : 202-498-7

No components need to be disclosed according to the applicable regulations.

## **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**

Wash off with soap and plenty of water. Consult a physician.

#### **In case of eye contact**

Flush eyes with water as a precaution.

#### **If swallowed**

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)

### **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. Avoid breathing dust.

For personal protection see section 8.

### **6.2 Environmental precautions**

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 formation of dust and aerosols.

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.  
Storage class (TRGS 510): Non Combustible Solids

## 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

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

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Respiratory protection is not required. Where protection from nuisance le (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Control of environmental exposure

Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |  |   |
|--|---|
| a) Appearance                              | Form: crystals/powder<br>Colour: white to off white |
| b) Odour                                   | amine-like  |
| c) Odour Threshold                         | No data available                                   |
| d) pH                                      | 9.0 - 9.5   |
| e) Melting point/freezing point            | Melting point/range: 101 - 108 °C                   |
| f) Initial boiling point and boiling range | 268 - 270 °C - lit.                                 |
| g) Flash point                             | 157 °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	No data available
l) Vapour density	No data available
m) Relative density	1.14 g/cm <sup>3</sup> at 20 °C
n) Water solubility	soluble
o) Partition coefficient: n-octanol/water	log Pow: -0.783
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	0.50 g/l
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## 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

Strong oxidizing agents

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO<sub>x</sub>) Other decomposition products - No data available  
In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female - 4,000 mg/kg(1,3-Dimethylurea)

#### Skin corrosion/irritation

Skin - Rabbit(1,3-Dimethylurea) Result: No skin irritation - 24 h

#### Serious eye damage/eye

irritation Eyes - Rabbit(1,3-Dimethylurea) Result: No eye irritation

**Respiratory or skin sensitisation**

in vivo assay - Mouse(1,3-Dimethylurea)  
Result: Does not cause skin sensitisation.  
(OECD Test Guideline 429)

**Germ cell mutagenicity**

Ames test(1,3-Dimethylurea)  
S. typhimurium  
Result: negative

**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**

An animal study indicates that 1,3-dimethylurea is teratogenic when administered to mice at high levels.(1,3-Dimethylurea)

**Specific target organ toxicity - single exposure**

No data available(1,3-Dimethylurea)

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available(1,3-Dimethylurea)

**Additional Information**

Repeated dose toxicity - Rat - male - Oral - No observed adverse effect level - 50 mg/kg - Lowest observed adverse effect level - 150 mg/kg(1,3-Dimethylurea)  
RTECS: YS9868000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.(1,3-Dimethylurea)

**SECTION 12: Ecological information****12.1 Toxicity**

Toxicity to fish	static test LC50 - Leuciscus idus (Golden orfe) - ca. 10,000 mg/l - 96 h(1,3-Dimethylurea) (DIN 38412)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 500 mg/l - 48 h(1,3-Dimethylurea) (Directive 67/548/EEC, Annex V, C.2.)
Toxicity to algae	static test EC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) - > 500 mg/l - 72 h(1,3-Dimethylurea)
Toxicity to bacteria	Respiration inhibition EC50 - activated sludge - > 1,000 mg/l - 30 min(1,3-Dimethylurea)

**12.2 Persistence and degradability**

Biodegradability aerobic - Exposure time 21 d(1,3-Dimethylurea)  
Result: 90 - 100 % - Readily biodegradable  
(OECD Test Guideline 301A)

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available(1,3-Dimethylurea)

