

## Chemical Safety Data Sheet MSDS / SDS

## Thiourea SDS

Revision Date:2024-04-25 Revision Number:1

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

Product name: Thiourea  
CAS: 62-56-6

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.  
Uses advised against: none

**Company Identification**

Company: Chemicalbook.in  
Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090  
Telephone: +91 9550333722

**SECTION 2: Hazards identification****Classification of the substance or mixture**

Acute toxicity - Category 4, Oral  
Carcinogenicity, Category 2

Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2  
Reproductive toxicity, Category 2

**GHS label elements, including precautionary statements**

Pictogram(s)



Signal word

Warning

**Hazard statement(s)**

H302 Harmful if swallowed  
H351 Suspected of causing cancer  
H411 Toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

**Prevention**

P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P203 Obtain, read and follow all safety instructions before use.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
P273 Avoid release to the environment.

**Response**

P301+P317 IF SWALLOWED: Get medical help.  
P330 Rinse mouth.  
P318 IF exposed or concerned, get medical advice.  
P391 Collect spillage.

**Storage**

P405 Store locked up.

**Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in classification**

no data available

### SECTION 3: Composition/information on ingredients

#### Substance

Chemical name: Thiourea

Common names and synonyms: Thiourea

CAS number: 62-56-6

EC number: 200-543-5

Concentration: 100%

### SECTION 4: First aid measures

#### Description of necessary first-aid measures

##### If inhaled

Fresh air, rest. Refer for medical attention.

##### Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention .

##### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

##### Following ingestion

Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention .

#### Most important symptoms/effects, acute and delayed

no data available

#### Indication of immediate medical attention and special treatment needed, if necessary

no data available

## SECTION 5: Firefighting measures

### Suitable extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

### Specific hazards arising from the chemical

Combustible. Gives off irritating or toxic fumes (or gases) in a fire. Risk of fire and explosion on contact with acrolein.

### Special protective actions for fire-fighters

Use water spray, foam, powder, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Evacuate danger area! Consult an expert! Personal protection: chemical protection suit and particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Do NOT wash away into sewer. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

### Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## SECTION 7: Handling and storage

### **Precautions for safe handling**

NO open flames. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### **Conditions for safe storage, including any incompatibilities**

Separated from acids, food and feedstuffs, acrolein and oxidants. Cool. Well closed. Keep in a well-ventilated room.

## **SECTION 8: Exposure controls/personal protection**

### **Control parameters**

### **Occupational Exposure limit values**

MAK: sensitization of skin (SH); photosensitization (SP); carcinogen category: 3B

### **Biological limit values**

no data available

### **Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### **Individual protection measures, such as personal protective equipment (PPE)**

#### **Eye/face protection**

Wear face shield or eye protection in combination with breathing protection if powder.

#### **Skin protection**

Protective gloves. Protective clothing.

#### **Respiratory protection**

Avoid inhalation of dust and mist. Use local exhaust or breathing protection.

#### **Thermal hazards**

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Solid. Crystalline.
Colour:	Colourless/white.
Odour:	no data available
Melting point/freezing point:	$\geq 164 - \leq 178$ °C.
Boiling point or initial boiling point and boiling range:	Has decomposed before boiling
Flammability:	no data available
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	182 °C
Auto-ignition temperature:	$> 240$ °C. Remarks:Melting of test substance observed from 240 °C on with slight hissing noise, foaming and smoke development (increases with increasing temperature).
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	Miscible with water
Partition coefficient n-octanol/water:	$\log P_{ow} = -0.92$ . Temperature:20 °C.; $P_{ow} = 0.12$ . Temperature:20 °C.
Vapour pressure:	0 hPa. Temperature:20 °C.;0 mm Hg. Temperature:20 °C.
Density and/or relative density:	Ca. 1.405 g/cm <sup>3</sup> . Temperature:25 °C.

Relative vapour density: no data available

Particle characteristics: no data available

## SECTION 10: Stability and reactivity

### Reactivity

no data available

### Chemical stability

no data available

### Possibility of hazardous reactions

No data. Decomposes on heating. This produces toxic fumes of nitrogen oxides and sulfur oxides. Reacts violently with acrolein, strong acids and strong oxidants.

### Conditions to avoid

no data available

### Incompatible materials

no data available

### Hazardous decomposition products

no data available

## SECTION 11: Toxicological information

### Acute toxicity

Oral: LD50 - rat (female) - > 2 000 - < 2 500 mg/kg bw.

Inhalation: LC50 - rat (male/female) - > 195 mg/m<sup>3</sup> air (analytical).

Dermal: LD50 - rabbit (male/female) - > 2 800 mg/kg bw.

**Skin corrosion/irritation**

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

The substance is irritating to the eyes.

**STOT-repeated exposure**

Repeated or prolonged contact may cause skin sensitization. The substance may have effects on the thyroid. This substance is possibly carcinogenic to humans.

**Aspiration hazard**

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.



## SECTION 12: Ecological information

### Toxicity

Toxicity to fish: LC50 - *Leuciscus idus* - > 10 000 mg/L - 48 h.

Toxicity to daphnia and other aquatic invertebrates: LC50 - *Daphnia magna* - 1.8 mg/L - 96 h.

Toxicity to algae: EC10 - *Desmodesmus subspicatus* (previous name: *Scenedesmus subspicatus*) -  $\geq 0.3$  -  $\leq 0.6$  mg/L - 96 h.

Toxicity to microorganisms: no data - activated sludge.

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### Other adverse effects

no data available

## SECTION 13: Disposal considerations

### Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## SECTION 14: Transport information

### UN Number

ADR/RID: UN3077 (For reference only, please check.)

IMDG: UN3077 (For reference only, please check.)

IATA: UN3077 (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: 9 (For reference only, please check.)

IMDG: 9 (For reference only, please check.)

IATA: 9 (For reference only, please check.)

### Packing group, if applicable

ADR/RID: III (For reference only, please check.)

IMDG: III (For reference only, please check.)

IATA: III (For reference only, please check.)

### Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

### Special precautions for user

no data available

### Transport in bulk according to IMO instruments

no data available

## **SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

**China Catalog of Hazardous chemicals 2015**

Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Listed.

**(PICCS)**

Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC)**

Listed.

**Korea Existing Chemicals List (KECL)**

Listed.

## **SECTION 16: Other information**

**Abbreviations and acronyms**

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:  
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

Do NOT take working clothes home.

Disclaimer: 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. We as supplier shall not be held liable for any