



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
US OSHA Hazard Communication Standard (29 CFR 1910.1200)

Revision date 16-Apr-2025

Revision Number 1

## 1. Identification

### Product identifier

Product Name Thiourea

### Other means of identification

Product Code(s) 5831

UN number or ID number UN2811

Synonyms Thiocarbamide

### Recommended use of the chemical and restrictions on use

Recommended use Industrial use  
Laboratory use  
Industrial Manufacturing (all)

Restrictions on use No information available

### Details of the supplier of the safety data sheet

#### Supplier Address

Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI 53925 USA  
Phone: (920) 623-2140  
Fax: (920) 623-2577  
www.columbuschemical.com

### Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC: 1-800-424-9300 for US / 703-527-3887 outside US

Emergency Telephone 911

## 2. Hazard(s) identification

### Classification

Acute toxicity - Oral	Category 4
Carcinogenicity	Category 2
Reproductive toxicity	Category 2

### Hazards not otherwise classified (HNOC)

Not applicable

**Label elements****Warning****Hazard statements**

H302 - Harmful if swallowed

H351 - Suspected of causing cancer

H361 - Suspected of damaging fertility or the unborn child

**Precautionary Statements - Prevention**

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

**Precautionary Statements - Response**

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P330 - Rinse mouth

**Precautionary Statements - Storage**

P405 - Store locked up

**Precautionary Statements - Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**

May be harmful in contact with skin. Toxic to aquatic life with long lasting effects.

**3. Composition/information on ingredients****Substance****Synonyms**

Thiocarbamide.

Chemical name	CAS No	Weight-%	Formula	Molecular Weight
Thiourea	62-56-6	>99	NH <sub>2</sub> CSNH <sub>2</sub>	76.12 g/mol

**4. First-aid measures****Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.

**Inhalation**

Remove to fresh air.

**Eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.

**Most important symptoms and effects, both acute and delayed**

<b>Symptoms</b>	No information available.
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**Indication of any immediate medical attention and special treatment needed**

<b>Note to physicians</b>	Treat symptomatically.
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**5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon oxides. Nitrogen oxides (NOx). Sulfur oxides.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	None.
<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

<b>Personal precautions</b>	Ensure adequate ventilation.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.

**Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways.
<b>Methods for cleaning up</b>	Sweep up and shovel into suitable containers for disposal. Avoid generation of dust.

**7. Handling and storage****Precautions for safe handling**

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.
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**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

## 8. Exposure controls/personal protection

**Control parameters****Exposure Limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Appropriate engineering controls****Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear safety glasses with side shields (or goggles).

**Hand protection**

Wear suitable gloves.

**Skin and body protection**

Wear suitable protective clothing.

**Respiratory protection**

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations**

Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

Physical state	Solid
Appearance	Crystalline
Color	White
Odor	No information available
Odor threshold	No information available

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	174 - 177 °C / 345.2 - 350.6 °F	None known
Initial boiling point and boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	1.40 - 1.41	None known
Water solubility	Partially soluble	None known

<b>Solubility(ies)</b>	Soluble in ethanol and acetone. Slightly soluble in diethyl ether.	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>		None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

**Other information**

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Softening point</b>	No information available
<b>Molecular weight</b>	76.12 g/mol
<b>VOC content</b>	No information available
<b>Liquid Density</b>	No information available
<b>Bulk density</b>	No information available

**10. Stability and reactivity**

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Incompatible materials</b>	Hydrogen peroxide.
<b>Hazardous decomposition products</b>	Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon oxides. Nitrogen oxides (NOx). Sulfur oxides.

**11. Toxicological information****Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	May be harmful in contact with skin.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Harmful if swallowed. (based on components).

**Symptoms related to the physical, chemical and toxicological characteristics**

<b>Symptoms</b>	No information available.
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**Acute toxicity****Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Thiourea	= 1750 mg/kg ( Rat )	> 2800 mg/kg ( Rat )	-

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Thiourea	-	Group 3	Reasonably Anticipated	X

**Legend**

**IARC (International Agency for Research on Cancer)**

Group 3 - Not Classifiable as to Carcinogenicity in Humans

**NTP (National Toxicology Program)**

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**

X - Present

**Reproductive toxicity** Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

**Other adverse effects** No information available.

**Interactive effects** No information available.

**12. Ecological information**

**Ecotoxicity** Toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Thiourea	EC50: =6.8mg/L (96h, Desmodesmus subspicatus) EC50: 3.8 - 10mg/L (72h, Desmodesmus subspicatus)	LC50: >600mg/L (96h, Pimephales promelas) LC50: =10000mg/L (96h, Brachydanio rerio)	-	EC50: =35mg/L (48h, Daphnia magna)

**Persistence and degradability** No information available.

**Bioaccumulation****Component Information**

Chemical name	Partition coefficient
Thiourea	-0.92

**Other adverse effects** No information available.

### 13. Disposal considerations

#### Disposal methods

<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Do not reuse empty containers. Dispose of contents/containers in accordance with local regulations.
<b>US EPA Waste Number</b>	U219

### 14. Transport information

<b>DOT</b>	Regulated
<b>UN number or ID number</b>	UN2811
<b>Proper shipping name</b>	Toxic solids, organic, n.o.s., (Thiourea)
<b>Transport hazard class(es)</b>	6.1
<b>Packing group</b>	III
<b>DOT Marine Pollutant</b>	No

<b>TDG</b>	Regulated
<b>UN number or ID number</b>	UN2811
<b>UN proper shipping name</b>	Toxic solids, organic, n.o.s., (Thiourea)
<b>Transport hazard class(es)</b>	6.1
<b>Packing group</b>	III

<b>ICAO (air)</b>	Regulated
<b>UN number or ID number</b>	UN2811
<b>UN proper shipping name</b>	Toxic solids, organic, n.o.s., (Thiourea)
<b>Transport hazard class(es)</b>	6.1
<b>Packing group</b>	III

<b>IATA</b>	Regulated
<b>UN number or ID number</b>	UN2811
<b>UN proper shipping name</b>	Toxic solids, organic, n.o.s., (Thiourea)
<b>Transport hazard class(es)</b>	6.1
<b>Packing group</b>	III

<b>IMDG</b>	Regulated
<b>UN number or ID number</b>	UN2811
<b>UN proper shipping name</b>	Toxic solids, organic, n.o.s., (Thiourea)
<b>Transport hazard class(es)</b>	6.1
<b>Packing group</b>	III

### 15. Regulatory information

#### International Inventories

<b>TSCA</b>	Complies.
<b>DSL/NDL</b>	Complies.
<b>EINECS/ELINCS</b>	Contact supplier for inventory compliance status.
<b>ENCS</b>	Contact supplier for inventory compliance status.
<b>IECSC</b>	Contact supplier for inventory compliance status.
<b>KECL</b>	Contact supplier for inventory compliance status.

**PICCS**  
**AIIC**  
**NZIoC**

Contact supplier for inventory compliance status.  
 Contact supplier for inventory compliance status.  
 Contact supplier for inventory compliance status.

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

### US Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Thiourea 62-56-6	0.1

#### SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

#### CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
Thiourea	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ

### US State Regulations

#### California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical name	California Proposition 65
Thiourea 62-56-6	Carcinogen

#### U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Thiourea	X	X	X

#### U.S. EPA Label Information

**EPA Pesticide Registration Number** Not applicable



## 16. Other information

<b>NFPA</b>	<b>Health hazards</b>	3	<b>Flammability</b>	0	<b>Instability</b>	0	<b>Special hazards</b>	-
<b>HMIS</b>	<b>Health hazards</b>	3 *	<b>Flammability</b>	0	<b>Physical hazards</b>	0	<b>Personal protection</b>	X
<i>Chronic Hazard Star Legend</i>		<i>* = Chronic Health Hazard</i>						

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

### Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AEGL(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 National Institute of Technology and Evaluation (NITE)  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 World Health Organization

**Revision date** 16-Apr-2025

**Revision Note** No information available.

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**