ESSENTIAL CHEMISTRY. INNOVATIVE SOLUTIONS.

SAFETY DATA SHEET

Print Date: July 30, 2025

Section 1: Product & Company Information

Product Identifier: **Thiourea**

Other Means of Identification
Product Number: 130010

Recommended Use and Restrictions on Use
Recommended Use: No data available.
Restrictions on Use: No data available.

Manufacturer / Importer / Supplier / Distributor Information
Company Name: CORECHEM Inc.
Address: 4320 Greenway Drive
Knoxville, TN 37918
USA

Information Telephone Number: 1-865-524-4239
Fax Number: 1-865-524-3375
Website: www.corecheminc.com
Contact Person: Regulatory Manager
E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 *(monitored 24 hours/day)*

Section 2: Hazards Identification

GHS Hazard Classification(s)
In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)
Not classified.

Health Hazard(s)
Acute Toxicity, Oral - 3
Carcinogenicity - 2
Toxic to Reproduction - 2

Environmental Hazard(s)
Aquatic, Chronic - 2

Label Elements
Signal Word
WARNING

Hazard Symbol(s)

Hazard Statement(s)
H301: Toxic if swallowed.
H351: Suspected of causing cancer.
H361: Suspected of damaging fertility or the unborn child.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements
General
Not applicable.

Prevention
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P264: Wash face, hands and any exposed skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P273: Avoid release to the environment.
P281: Use personal protective equipment as required.

Response
P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P308 + P313: IF exposed or concerned: Get medical advice/attention.
P330: Rinse mouth.

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.

Hazard(s) not otherwise classified (HNOC)

None known.

Section 3: Composition/Information on Ingredients

Substance

Chemical Identity [2]	Common Name/Synonym(s)	CAS # [3]	Weight %	Impurity or Stabilizing Additive
Thiourea	Thiocarbamide, isothiourea, 2-thiourea	62-56-6	>99	None

1. Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as it Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.
2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
3. "—"Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

Inhalation

Remove source of contamination or move victim to fresh air. Get immediate medical attention.

Skin Contact

Take off immediately all contaminated clothing. Wash off IMMEDIATELY with plenty of water for at least 15-20 minutes. Get medical attention immediately! Wash clothing separately before reuse.

Eye Contact

Immediately flush eyes with plenty of water for at least 20 minutes. Call a physician or poison control center immediately.

Ingestion

DO NOT INDUCE VOMITING. If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to a victim who is unconscious or having convulsions.

Most important symptoms/effects, acute and delayed

Symptoms

Irritating to eyes, respiratory system and skin.

Indication of immediate medical attention and special treatment needed

Hazards

Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

Treatment

Treat symptomatically. Symptoms may be delayed.
Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

Section 5: Fire-Fighting Measures

General Fire Hazards

In case of fire and/or explosion do not breathe fumes. Use water spray to keep fire-exposed containers cool. Move containers from fire area if you can do so without risk. Water may be ineffective in fighting the fire. Fight fire from a protected location.
Flammable liquid and vapor.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Extinguishing powder, dry chemical, CO2, alcohol-resistant foam or water spray.

Unsuitable Extinguishing Media

Avoid water in straight hose stream; will scatter and spread fire. Do not scatter spilled material with high pressure water streams.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon oxides. Nitrogen oxides (NOx). Oxides of sulfur. Containers may explode when heated.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.
Water may be ineffective in fighting the fire. Use water spray to keep fire-exposed containers cool.

Special Protective Equipment for Fire-Fighters
As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures
Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Evacuate area.
Evacuate spill area. Isolate hazard area and deny entry to unnecessary or unprotected personnel. Stay upwind and keep out of low area. Remove all possible sources of ignition in the surrounding area. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate contaminated area thoroughly shut off leaks if possible, without personal risk.

Methods and Materials for Containment and Clean-Up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.
Eliminate all ignition sources if safe to do so. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.
For spills, transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Absorb remaining liquid in sand or inert absorbent and remove to safe place.
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Following product recovery, flush area with water.
Small Spills: Absorb spill with vermiculite or other inert material. Clean surface thoroughly to remove residual contamination.
Never return spills in original containers for re-use. For waste disposal, see Section 13 of the SDS.

Notification Procedures
Notify authorities if any exposure to the general public or environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained.

Environmental Precautions
Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.
Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
Use appropriate containment of product and firefighting water to avoid environmental contamination. Prevent from spreading or entering drains, ditches, or rivers by using sand, earth, or other appropriate barriers.
Avoid discharge into drains, water courses or onto the ground.

Section 7: Handling and Storage

Precautions for Safe Handling
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.

Conditions for Safe Storage, including any Incompatibilities
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep out of the reach of children.

Section 8: Exposure Controls/Personal Protection

Control Parameters

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

Biological Limit Values
The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls
Showers. Eyewash stations. Ventilation systems.

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

General Information
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/Face Protection
Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection

Hand Protection
Wear appropriate chemical resistant gloves.

Other
Wear appropriate chemical resistant clothing.

Respiratory Protection
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information

Hygiene Measures
When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

Section 9: Physical and Chemical Properties

Appearance:
Physical State: Solid, Crystals
Color: White

Odor:	
Odor Threshold:	No data available.
pH:	No data available.
Melting Point/Freezing Point:	175 – 177°C / 347 – 350.6 °F
Initial Boiling Point and Boiling Range:	No data available.
Flash Point:	No data available.
Evaporation Rate (butyl acetate=1)**:**	No data available.
Flammability (solid, gas):	No data available.
Upper/Lower Limit on Flammability or Explosive Limits	
Flammability Limit – Upper:	No data available.
Flammability Limit – Lower:	No data available.
Explosive Limit – Upper:	No data available.
Explosive Limit – Lower:	No data available.
Vapor Pressure:	No data available.
Vapor Density (air =1)**:**	No data available.
Relative Density (water=1)**:**	No data available.
Solubility(ies):	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Viscosity:	No data available.

Other Information:

Molecular Weight:	No data available.
Formula:	No data available.

Section 10: Stability and Reactivity

Reactivity
No data available.

Chemical Stability
Material is stable under normal conditions.

Possibility of Hazardous Reactions
Hazardous polymerization does not occur.

Conditions to Avoid
Heat, sparks, flames. Moisture. Contact with incompatible materials.

Incompatible Materials
Strong oxidizing agents. Strong acids. Strong bases. Acrylates. Aldehyde. Hydrogen Peroxides. Caustics. Metals.

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon oxides. Nitrogen oxides (NOx). Oxides of sulfur.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: No data available.
Inhalation: No data available.
Skin Contact: No data available.
Eye Contact: No data available.

Information on Toxicological Effects
Acute Toxicity (List all possible routes of exposure)

Oral
Thiourea: LD50: 125 mg/kg (Rat)

Dermal
Thiourea: LD50: > 2800 mg/kg (Rat)

Inhalation
No data available.

Repeated Dose Toxicity
No data available.

Skin Corrosion/Irritation
No data available.

Serious Eye Damage/Eye Irritation
No data available.

Respiratory/Skin Sensitization
No data available.

Carcinogenicity
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
Group 3, Not classifiable as to its carcinogenicity to humans.
US. National Toxicology Program (NTP) Report on Carcinogens
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
Component(s) of this product at levels greater than 0.1%, have been identified as a carcinogen or potential carcinogen by OSHA.

Germ Cell Mutagenicity
In Vitro
No mutagenic components identified.
In Vivo
No mutagenic components identified.

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

Specific Target Organ Toxicity – Single Exposure
None known.

Specific Target Organ Toxicity – Repeated Exposure
None known.

Aspiration Hazard
Not classified.

Other Effects
None known.

Section 12: Ecological Information

Ecotoxicity
Acute Hazards to the Aquatic Environment
Fish
Thiourea: LC50: >600 mg/L (96h, Pimephales Promelas)
Thiourea: LC50: 10000 mg/L (96h, Brachydanio Rerio)

Aquatic Invertebrates
Thiourea: EC50: 35 mg/L (48h, Daphnia Magna)
Thiourea: NOEC: 1.8 mg/L (21d, Daphnia Magna)

Toxicity to Aquatic Plants
Thiourea: EC50: 6.8 mg/L (96h, Desmodesmus Subspicatus)
Thiourea: EC50: 3.8 – 10 mg/L (72h, Desmodesmus Subspicatus)

Chronic Hazards to the Aquatic Environment
Fish
No data available.

Aquatic Invertebrates
No data available.

Toxicity to Aquatic Plants
No data available.

Persistence and Degradability

Biodegradation

No data available.

BOD/COD Ratio

No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Partition Coefficient: -0.92

Mobility in Soil

The product is water soluble and may spread in water systems.

Other Adverse Effects

Toxic to aquatic life with long lasting effects.

Section 13: Disposal Considerations

Disposal Instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Contaminated Packaging

Handle contaminated packages in the same way as the substance itself. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks, and flames. Do not cut, puncture, or weld on or near this container. Follow label warnings until container is thoroughly cleaned or destroyed.

Section 14: Transportation Information

US Department of Transportation (DOT)

UN Number:	UN2811
UN Proper Shipping Name:	Toxic Solids, Organic, N.O.S.
Technical Name:	
Hazard Class:	6.1
Subsidiary Hazard Risk:	-
Packing Group:	III
DOT Label/Placard Exemptions:	Not determined
Special Provisions:	IB8, IP3, T1, TP33
Packaging Exceptions:	49CFR 173.153
Packaging Non-Bulk:	49CFR 173.213
Packaging Bulk:	49CFR 173.240
Reportable Quantity (RQ):	10lb (4.54kg)
Marine Pollutant:	Yes
Poison Inhalation Hazard:	No
Special precautions for user:	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Emergency Response Guidebook (ERG) #:	154

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

The following chemical(s) in this material are subject to reporting levels established by CERCLA:

Thiourea: 10lb

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

The following chemical(s) in this material are subject to reporting levels established by CAA:

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

The following chemicals(s) in this material are subject to reporting levels established by SARA Title III, Section 302:

Thiourea.

EPCRA 304 Emergency Response Notification

No data available.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard: No
Sudden Release of Pressure: No
Reactive: No
Acute (Immediate) Health Hazard: Yes
Chronic (Delayed) Health Hazard: No

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

The following chemical(s) in this material are subject to reporting levels established by SARA Title III, Section 313:
Thiourea.

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard: 0
Chronic Health Hazard: /
Flammability: 0
Physical Hazard: 0
Personal Protection: X
(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0
Special: N/A
(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

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Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate
BCF - Bioconcentration Factor
EC50 - Effective concentration, 50%
IDHL – Immediately Dangerous to Life and Health
Kg – Kilogram
l – Liter
lb – Pound
LC50 - Lethal Concentration, 50%
LD50 - Lethal Dose, 50%
mg - milligram
ml – milliliter
N/A – Not Applicable
N/D – Not Determined
PEL – Permissible Exposure Limit
REL – Recommended Exposure Limit
STEL – Short-term Exposure Limit
TWA - Time weighted average
ACGIH - American Conference of Industrial Hygienists
AIHA – American Industrial Hygiene Association
BEI - Biological Exposure Indices
CAS – Chemical Abstracts Service
DOT – US Department of Transportation
EPA – US Environmental Protection Agency
GHS - Globally Harmonized System of Classification and Labelling of Chemicals
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IBC - Intermediate Bulk Container
IMDG - International Maritime Dangerous Goods
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OSHA – US Occupational Health and Safety Administration
SARA – US EPA Superfund Amendments and Reauthorization Act
TSCA – US EPA Toxic Substances Control Act
UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

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