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MATERIAL SAFETY DATA SHEET (MSDS)

2-THIOURACIL (FOR SYNTHESIS)

1 - Chemical Product

MSDS Name: 2-Thiouracil
Synonym: 2,3-Dihydro-2-Thioxo-4(1H)-Pyrimidinone; 6-Hydroxy-2-Mercaptopyrimidine; 2-Thio-6-Oxypyrimidine

Cas NO: 141-90-2

Product Coad: T0206500100

Molecular Formula: C₄H₄N₂O₂
Molecular Weight: 128.15

2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	content	EINECS#
141-90-2	Thiouracil	99	205-508-8

3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Toxic by inhalation, in contact with skin and if swallowed. The toxicological properties of this material have not been fully investigated.

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation.

Ingestion: May cause irritation of the digestive tract. May cause liver damage.

The toxicological properties of this substance have not been fully investigated. Mercaptans may cause nausea and headache. Exposure to high concentrations of mercaptans can produce unconsciousness with cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), cold extremities and rapid pulse.

Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated. Exposure to high concentrations of mercaptans can produce unconsciousness with cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), cold extremities and rapid pulse. Mercaptans may cause nausea and headache.

Chronic: Chronic ingestion may cause liver damage. Adverse reproductive effects have been reported in humans.

4 - FIRST AID MEASURES

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

5 - FIRE FIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

7 - HANDLING and STORAGE

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Hormones and antibiotics room.

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MATERIAL SAFETY DATA SHEET (MSDS)**2-THIOURACIL (FOR SYNTHESIS)****8 - EXPOSURE CONTROLS, PERSONAL PROTECTION**

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits CAS# 141-90-2: Personal Protective Equipment Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Powder
Color: white to off-white
Odor: odorless
pH: Not available.
Vapor Pressure: Not available.
Viscosity: Not available.
Boiling Point: Decomposes
Freezing/Melting Point: > 300 deg C
Autoignition Temperature: Not applicable.
Flash Point: Not applicable.
Explosion Limits, lower: Not available.
Explosion Limits, upper: Not available.
Decomposition Temperature: > 300 deg C
Solubility in water: soluble in alkaline solutions
Specific Gravity/Density:
Molecular Formula: C₄H₄N₂O₂S
Molecular Weight: 128.15

10 - STABILITY AND REACTIVITY

Chemical Stability:
Stable under normal temperatures and pressures.
Conditions to Avoid:
Incompatible materials, dust generation, excess heat, strong oxidants.
Incompatibilities with Other Materials:
Oxidizing agents.
Hazardous Decomposition Products:
Nitrogen oxides, carbon monoxide, oxides of sulfur, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Has not been reported

11 - TOXICOLOGICAL INFORMATION

RTECS#:
CAS# 141-90-2: YR1575000 LD50/LC50:
CAS# 141-90-2: Oral, mouse: LD50 = 2850 mg/kg.
Carcinogenicity:
Thiouracil - California: carcinogen, initial date 6/11/04 IARC: Group 2B carcinogen Other:
See actual entry in RTECS for complete information.

12 - ECOLOGICAL INFORMATION**13 - DISPOSAL CONSIDERATIONS**

Dispose of in a manner consistent with federal, state, and local regulations.

14 - TRANSPORT INFORMATION

IATA
Not regulated as a hazardous material.
IMO
Not regulated as a hazardous material.
RID/ADR
Not regulated as a hazardous material.

MATERIAL SAFETY DATA SHEET (MSDS)**2-THIOURACIL (FOR SYNTHESIS)****15 - REGULATORY INFORMATION**

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: T
Risk Phrases:
R 23/24/25 Toxic by inhalation, in contact with skin
and if swallowed.
Safety Phrases:
S 28A After contact with skin, wash immediately with
plenty of water.
S 37 Wear suitable gloves.
S 45 In case of accident or if you feel unwell, seek
medical advice immediately (show the label where
possible).
WGK (Water Danger/Protection)
CAS# 141-90-2: No information available.
Canada
CAS# 141-90-2 is listed on Canada's DSL List.
CAS# 141-90-2 is not listed on Canada's Ingredient Disclosure List.
US FEDERAL
TSCA
CAS# 141-90-2 is listed on the TSCA inventory.

16. Other Information

Product Use: Laboratory Reagent.

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

DISCLAIMER:

- **SUVCHEM** Products are to be used as Lab Chemicals for R&D only. Not for drug, medicinal, household or other uses.
- **SUVCHEM** shall not be responsible for any damage resulting from handling or from contact with the above product.
- **SUVCHEM** provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.

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