Material Safety Data Sheet
2-Thiouracil, 99% (Titr.)

ACC# 96674

Section 1 - Chemical Product and Company Identification

MSDS Name: 2-Thiouracil, 99% (Titr.)
Catalog Numbers: AC151840000, AC151840050, AC151841000
Synonyms: 2,3-Dihydro-2-Thioxo-4(1H)-Pyrimidinone; 6-Hydroxy-2-Mercaptopyrimidine; 2-Thio-6-Oxopyrimidine.
Company Identification:
Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410
For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-90-2</td>
<td>Thiouracil</td>
<td>97</td>
<td>205-508-8</td>
</tr>
</tbody>
</table>

Hazard Symbols: T
Risk Phrases: 23/24/25

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white to off-white powder. May cause liver damage. Caution! The toxicological properties of this material have not been fully investigated. May cause eye and skin irritation. May cause respiratory and digestive tract irritation. May cause adverse reproductive effects.
Target Organs: Liver, endocrine.

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.

Section 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:** Treat symptomatically and supportively.

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### Section 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.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 0; Instability: 0

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### Section 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.

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### Section 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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### Section 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**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
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https://fscimage.fishersci.com/msds/96674.htm

11/15/2004
OSHA Vacated PELs: Thiouracil: No OSHA Vacated PELs are listed for this chemical.

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 a respirator's use.

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**Section 9 - Physical and Chemical Properties**

**Physical State:** Powder
**Appearance:** white to off-white
**Odor:** odorless
**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Decomposes

**Freezing/Melting Point:** > 300 deg C

**Decomposition Temperature:** > 300 deg C

**Solubility:** soluble in alkaline solutions

**Specific Gravity/Density:** Not available.

**Molecular Formula:** C4H4N2O2S

**Molecular Weight:** 128.15

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**Section 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

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**Section 11 - Toxicological Information**

**RTECS#:**

**CAS# 141-90-2: YR1575000**

**LD50/LC50:**

**CAS# 141-90-2:**
Oral, mouse: LD50 = 2850 mg/kg;

**Carcinogenicity:**

**CAS# 141-90-2:**

**OSHA:** Possible Select carcinogen
IARC: Group 2B carcinogen  
Epidemiology: No information available.  
Teratogenicity: No information available.  
Reproductive Effects: No information available.  
Neurotoxicity: No information available.  
Mutagenicity: No information available.  
Other Studies: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed. 
RCRA U-Series: None listed.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>Shipping Name:</th>
<th>US DOT</th>
<th>IATA</th>
<th>RID/ADR</th>
<th>IMO</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>No information available.</td>
<td>No information available.</td>
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</tbody>
</table>

| Hazard Class: | | |
|---------------| | |
| | | |

| UN Number: | |
|------------| |
| | |

| Packing Group: | |
|----------------| |
| | |

Section 15 - Regulatory Information

US FEDERAL

TSCA  
CAS# 141-90-2 is listed on the TSCA inventory.  
Health & Safety Reporting List  
None of the chemicals are on the Health & Safety Reporting List.  
Chemical Test Rules  
None of the chemicals in this product are under a Chemical Test Rule.  
Section 12b  
None of the chemicals are listed under TSCA Section 12b.  
TSCA Significant New Use Rule  
None of the chemicals in this material have a SNUR under TSCA.  
SARA

CERCLA Hazardous Substances and corresponding RQs  
None of the chemicals in this material have an RQ.  
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.

**Section 313**
No chemicals are reportable under Section 313.

**Clean Air Act:**
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**
None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**
None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**
CAS# 141-90-2 can be found on the following state right to know lists: California. California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations**

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:**

**Risk Phrases:**
R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

**Safety Phrases:**
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).
S 28A After contact with skin, wash immediately with plenty of water.

**WGK (Water Danger/Protection)**
CAS# 141-90-2: No information available.

**Canada - DSL/NDSL**
CAS# 141-90-2 is listed on Canada's DSL List.

**Canada - WHMIS**
This product has a WHMIS classification of D2A.

**Canadian Ingredient Disclosure List**

**Exposure Limits**

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**Section 16 - Additional Information**

**MSDS Creation Date:** 5/28/1999

**Revision #2 Date:** 3/18/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, however arising, even if Fisher has been advised of the possibility of such damages.