Section 1 - Chemical Product and Company Identification

MSDS Name: Thiourea, 99%
Catalog Numbers: 13891-0000, 13891-0010, 13891-5000
Synonyms: Thiocarbamide

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticalalaan 3a
2440 Geel, Belgium

Company Identification: (USA) Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>%</th>
<th>EINECS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>62-56-6</td>
<td>Thiourea</td>
<td>99%</td>
<td>200-543-5</td>
</tr>
</tbody>
</table>

Hazard Symbols: X N
Risk Phrases: 22 40 51/53 63

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Harmful if swallowed. Limited evidence of a carcinogenic effect. Possible risk of harm to the unborn child. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Potential Health Effects
Eye: May cause eye irritation. Causes redness and pain.
Skin: May cause skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

Ingestion: Poison by ingestion. May cause nausea and vomiting.

Inhalation: May cause respiratory tract irritation. May cause asthmatic attacks due to allergic sensitization of the respiratory tract.

Chronic: May cause bone marrow abnormalities with damage to blood forming tissues.

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. Do NOT allow victim to rub eyes or keep eyes closed.

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

Ingestion: Get medical aid immediately. Wash mouth out with water.

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

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. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

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. Avoid generating dusty conditions.

Section 7 - Handling and Storage

Handling: Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes. Use only in a chemical fume hood.

Storage: Store in a cool, dry place. Do not store in direct sunlight. Store in a tightly closed container.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

CAS# 62-56-6:
Netherlands: 0.5 mg/m³ MAC

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: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Crystals
Color: white - almost white
Odor: odorless
pH: Not available
Vapor Pressure: Not available
Viscosity: Not available
Boiling Point: Not available
Freezing/Melting Point: 171 - 175 deg C
Autoignition Temperature: 440 deg C (824.00 deg F)
Flash Point: Not available
Explosion Limits: Lower: Not available
Explosion Limits: Upper: Not available
Decomposition Temperature: Not available
Solubility in water: 12 G/100G METHANOL (20°C)
Specific Gravity/Density:
Molecular Formula: H2NCSNH2
Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, temperatures above 140°C.
Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, strong bases, acrolein, nitric acid, hydrogen peroxide.
Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, oxides of sulfur, carbon dioxide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 62-56-6: YU2800000

RTECS: CAS# 62-56-6: Draize test, rabbit, eye: 14%;
LD50/LC50: Oral, rat: LD50 = 125 mg/kg;
Other: Oral, rabbit: LDL0 = 6985 mg/kg
Thiourea - California: carcinogen, initial date 1/1/88 NTP: Suspect
Carcinogenicity: carcinogen IARC: Group 3 (not classifiable)
Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Not available

Section 13 - Disposal Considerations

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

Section 14 - Transport Information

Shipping Name: TOXIC SOLID, ORGANIC, N.O.S.*
Hazard Class: 6.1
UN Number: 2811
Packing Group: III
IATA IMO RID/ADR
TOXIC SOLID, TOXIC SOLID, TOXIC SOLID,
ORGANIC, N.O.S. ORGANIC, N.O.S. ORGANIC, N.O.S.
6.1 6.1 6.1
2811 2811 2811
III III III
USA RQ: CAS# 62-56-6: 10 lb final RQ; 4.54 kg final RQ

Section 15 - Regulatory Information

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: XN N
Risk Phrases:
   R 22 Harmful if swallowed.
   R 40 Limited evidence of a carcinogenic effect.
   R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
   R 63 Possible risk of harm to the unborn child.
Safety Phrases:
   S 36/37 Wear suitable protective clothing and gloves.
   S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)
   CAS# 62-56-6: 2

Canada
   CAS# 62-56-6 is listed on Canada's DSL List

US Federal
   TSCA
   CAS# 62-56-6 is listed on the TSCA Inventory.

Section 16 - Other Information
   MSDS Creation Date: 7/16/1996
   Revision #1 Date 7/03/2000
   Revisions were made in Sections: General revision.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility 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 the company 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 howsoever arising, even if the company has been advised of the possibility of such damages.

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