



Material Safety Data Sheet

Thiourea, Reagent ACS, 99+% (Titr.)

MSDS# 96580

Section 1 - Chemical Product and Company Identification

MSDS Name: Thiourea, Reagent ACS, 99+% (Titr.)
Catalog Numbers: AC397180000, AC424540000, AC424540010, AC424542500, AC9767350, NC9828583, NC9870041
Synonyms: Thiocarbamide; Thiourea; Isothiourea; Thiocarbonic acid diamide; Sulourea.

Company Identification:

Acros Organics BVBA
Janssen Pharmaceuticaaan 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

CAS#: 62-56-6
Chemical Name: Thiourea
%: 99+
EINECS#: 200-543-5

Hazard Symbols:

XN N



Risk Phrases:

22 40 51/53 63

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Warning! May cause allergic skin reaction. Possible risks of irreversible effects. This substance has caused adverse reproductive and fetal effects in animals. Harmful if swallowed. May cause cancer based on animal studies. Possible risk of harm to the unborn child. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Target Organs: Blood, liver, bone marrow, thyroid, reproductive system.

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. May be harmful if absorbed through the skin.

Ingestion: Harmful if swallowed. May cause nausea and vomiting. May cause anemia, leukopenia (reduction in the number of white blood cells in the blood), and thrombocytopenia. May cause bone marrow depression.

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

tract. May be harmful if inhaled.

Chronic: May cause bone marrow abnormalities with damage to blood forming tissues. May cause reproductive and fetal effects. Prolonged or repeated exposure may cause thyroid damage. Chronic exposure may cause liver damage. Laboratory experiments have resulted in mutagenic effects. Possible risk of harm to the unborn child. Thiourea has an antithyroid effect and it is possible that fetal goiter might be produced by sufficient maternal exposure to this agent. Thiourea was teratogenic in rats exposed to a 0.2% solution as drinking water. Limited evidence of a carcinogenic effect. May impair fertility.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin: In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical aid if symptoms occur. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

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. Water runoff can cause environmental damage. Dike and collect water used to fight fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dusts may be an explosion hazard if mixed with air at critical proportions and in the presence of an ignition source.

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

Autoignition Temperature: 440 deg C (824.00 deg F)

Flash Point: Not available

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 2; flammability: 0; instability: 0;

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 runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Avoid breathing dust.

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.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Thiourea	none listed	none listed	none listed

OSHA Vacated PELs: Thiourea: None listed

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

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.

Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder

Color: white

Odor: odorless

pH: Not available

Vapor Pressure: 2.5 mm Hg @ 25 deg C

Vapor Density: 2.6

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: Decomposes.

Freezing/Melting Point: 171 - 175 deg C

Decomposition Temperature:

Solubility in water: 13.6 g/100 ml (20°C)

Specific Gravity/Density: 1.405

Molecular Formula: CH₄N₂S

Molecular Weight: 76.12

Section 10 - Stability and Reactivity

- Chemical Stability: Stable under normal temperatures and pressures. Polymerization may occur upon heating.
- Conditions to Avoid: Mechanical shock, dust generation, excess heat.
- Incompatibilities with Other Materials: Oxidizing agents, strong acids, strong bases, acrolein, nitric acid, hydrogen peroxide, acrylaldehyde.
- Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, oxides of sulfur, carbon dioxide.
- Hazardous Polymerization: May occur.

Section 11 - Toxicological Information

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

RTECS:

LD50/LC50: **CAS# 62-56-6:** Draize test, rabbit, eye: 14%;
Oral, rat: LD50 = 125 mg/kg;

Carcinogenicity: Thiourea - California: carcinogen, initial date 1/1/88 NTP: Suspect carcinogen IARC: Group 3 (not classifiable)

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

- Ecotoxicity: Fish: Fathead Minnow: LC50 > 600 mg/L; 96 Hr; Unspecified
Bacteria: Phytobacterium phosphoreum: EC50 = 3400 mg/L; 15 min; Microtox test
Water flea Daphnia: LC50 = 1.8 mg/L; Unspecified; Unspecified
- Other: Testicular toxicity of thiourea has been demonstrated in fish exposed to concentrations of 300 ppm.

Section 13 - Disposal Considerations

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

Section 14 - Transport Information

US DOT

Shipping Name: TOXIC SOLIDS, ORGANIC, N.O.S.

Hazard Class: 6.1

UN Number: UN2811

Packing Group: III

Canada TDG

Shipping Name: Not available

Hazard Class:

UN Number:

Packing Group:

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

Canadian WHMIS Classifications: D1B, D2A

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

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

US Federal

TSCA

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

Section 16 - Other Information

MSDS Creation Date: 6/08/1999

Revision #7 Date 7/20/2009

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 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.
