

Material Safety Data Sheet

Thiosemicarbazide, 99%

ACC# 67651

Section 1 - Chemical Product and Company Identification

MSDS Name: Thiosemicarbazide, 99%

Catalog Numbers: AC138900000, AC138900050, AC138901000, AC138905000

Synonyms: Hydrazinecarbothioamide; N- Amino thiourea.

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

CAS#	Chemical Name	Percent	EINECS/ELINCS
79-19-6	Thiosemicarbazide	99.0	201-184-7

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white to light yellow powder.

Danger! May be fatal if swallowed. Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

Poison! May cause eye, skin, and respiratory tract irritation.

Target Organs: None known.

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation. May be harmful if absorbed through the skin.

Ingestion: May be fatal if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation: May cause respiratory tract irritation. May be harmful if inhaled.

Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Immediately 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: Never give anything by mouth to an unconscious person. SPEED IS ESSENTIAL. A DOCTOR MUST BE NOTIFIED AT ONCE. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

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 water spray, dry chemical, carbon dioxide, or chemical foam.

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; 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. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Do not breathe dust, vapor, mist, or gas. Keep container tightly closed. Avoid ingestion and inhalation. Use only in a chemical fume hood.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Poison room locked. Keep containers tightly closed.

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

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

OSHA Vacated PELs: Thiosemicarbazide: 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: 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: Powder

Appearance: white to light yellow

Odor: Odorless

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 175 - 180 deg C

Decomposition Temperature: > 178 deg C

Solubility: Soluble.

Specific Gravity/Density: Not available.

Molecular Formula: CH5N3S

Molecular Weight: 91.13

Section 10 - Stability and Reactivity

Chemical Stability: Stability unknown.

Conditions to Avoid: Temperatures above 150°C.

Incompatibilities with Other Materials: Strong oxidizing agents, strong bases, strong acids.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, oxides of sulfur, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 79-19-6: VT4200000

LD50/LC50:

CAS# 79-19-6:

Oral, rabbit: LD50 = 13 mg/kg;

Oral, rat: LD50 = 9160 ug/kg;

Skin, rabbit: LD50 = 2200 mg/kg;

Carcinogenicity:

CAS# 79-19-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: orl-rat TDLo:1024 mg/kg/78W-C; orl-rat TD:2048 mg/kg/78W-C

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: dnd-hmm:hla 20 æmol/l

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. LC50 (96hr) *Xenopus laevis* embryos 10.97 g/l EC50 (96hr) *Xenopus laevis* embryos 25.5 mg/l for gross embryo malformation (Dawson, D.A. et al J. Appl. Toxicol. 1990, 10(1), 59-64)

Environmental: Nutrification: 0.18, 0.90 mg/l inhibited NH₃ oxidation by 75% in activated sludge and by 50% in pure culture. 0.091, 0.455 and 0.910 mg/l inhibited nutrification in activated sludge by 0%, 31% and 66%. 1-Amino-2-thiourea is reported to be soluble in water. This would suggest that bioconcentration in aquatic organisms is not important.

Physical: No information available.

Other: TERRESTRIAL FATE: 1-Amino-2-thiourea may be susceptible to significant leaching in soil since it has been reported to be soluble in water.

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: CAS# 79-19-6: waste number P116.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	TOXIC SOLIDS, ORGANIC, N.O.S. (Thiosemicarbazide)	TOXIC SOLID ORGANIC NOS (THIOSEMICARBAZIDE)
Hazard Class:	6.1	6.1
UN Number:	UN2811	UN2811
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 79-19-6 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.

CERCLA Hazardous Substances and corresponding RQs

CAS# 79-19-6: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances

CAS# 79-19-6: 100 lb TPQ (lower threshold); 10000 lb TPQ (upper thresh old)

SARA Codes

CAS # 79-19-6: immediate.

Section 313

This material contains Thiosemicarbazide (CAS# 79-19-6, 99.0%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

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# 79-19-6 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.

California Prop 65

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:

T+

Risk Phrases:

R 28 Very toxic if swallowed.

R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

- 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
- S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 79-19-6: 3

Canada - DSL/NDSL

CAS# 79-19-6 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1A.

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.

Canadian Ingredient Disclosure List

CAS# 79-19-6 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 2/22/1999

Revision #4 Date: 5/02/2006

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, howsoever arising, even if Fisher has been advised of the possibility of such damages.