

Material Safety Data Sheet

1,1-Dimethyl-2-selenourea, 97%

ACC# 66495

Section 1 - Chemical Product and Company Identification

MSDS Name: 1,1-Dimethyl-2-selenourea, 97%

Catalog Numbers: AC294790010

Synonyms: None.

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 |
|-----------|---------------------------|---------|---------------|
| 5117-16-8 | 1,1-Dimethyl-2-selenourea | 97 | 225-854-3 |

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: brown lumps.

Warning! Harmful if inhaled or swallowed. May cause eye, skin, and respiratory tract irritation. Light sensitive. Air sensitive. The toxicological properties of this material have not been fully investigated.

Target Organs: Liver.

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation.

Ingestion: May cause irritation of the digestive tract. Poison by ingestion. The toxicological properties of this substance have not been fully investigated. May cause alopecia (loss of hair). May cause pallor, loss of appetite, nausea, vomiting, diarrhea, weakness, darkened urine, headache, sweating, convulsions, cyanosis (bluish skin due to deficient oxygenation of the blood), unconsciousness, respiratory failure and death. May cause garlic smell on the breath and body.

Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated. Toxic if inhaled. May also cause pallor, loss of appetite, nausea, vomiting, diarrhea, weakness, darkened urine, headache, sweating, convulsions, cyanosis (bluish skin due to deficient oxygenation of the blood), unconsciousness, fatigue, pulmonary edema & coma.

Chronic: Chronic exposure to selenium may cause central nervous system effects, digestive tract disturbances, pallor, garlic breath, Chronic exposure to selenium may cause pallor, garlic breath, metallic taste, anemia, liver and spleen damage. Chronic selenium poisoning is characterized by loss of hair and nails, skin lesions, and abnormalities of the nervous system.

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: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Wash mouth out with 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. Do NOT use mouth-to-mouth resuscitation.

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. Use water spray to keep fire-exposed containers cool. Containers may explode when heated. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.

Extinguishing Media: Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use water spray, fog or regular foam. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) 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. Place under an inert atmosphere.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Store protected from light. Handle under an inert atmosphere. Store protected from air.

Storage: Store in a tightly closed container. Keep under a nitrogen blanket. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep refrigerated. (Store below 4°C/39°F.) Do not expose to air. Store protected from light. Store under an inert atmosphere.

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 |
|---------------------------|--|--|--|
| 1,1-Dimethyl-2-selenourea | 0.2 mg/m ³ TWA (as Se) (listed under Selenium compounds). | 0.2 mg/m ³ TWA (as Se, except Selenium hexafluoride) (listed under Selenium compounds). | 0.2 mg/m ³ TWA (as Se) (listed under Selenium compounds). |

OSHA Vacated PELs: 1,1-Dimethyl-2-selenourea: 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 a chemical apron. Wear appropriate protective clothing to prevent skin exposure.

Respirators: A NIOSH/MSHA approved air purifying dust or mist respirator or European Standard EN 149.

Section 9 - Physical and Chemical Properties

Physical State: Lumps

Appearance: brown

Odor: none reported

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: 169 - 172 deg C

Decomposition Temperature: Not available.

Solubility: Not available.

Specific Gravity/Density: Not available.

Molecular Formula: (CH₃)₂NC(Se)NH₂

Molecular Weight: 151.07

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Incompatible materials, light, dust generation, exposure to air, excess heat, exposure to moist air or water.

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

Hazardous Decomposition Products: Carbon monoxide, oxides of nitrogen, irritating and toxic fumes and gases, carbon dioxide, selenium/selenium oxides.

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:

CAS# 5117-16-8 unlisted.

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 5117-16-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Available animal data are insufficient to allow an evaluation of the carcinogenicity of selenium compounds.

Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

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

| | US DOT | Canada TDG |
|-----------------------|--|---------------------------|
| Shipping Name: | DOT regulated - small quantity provisions apply (see 49CFR173.4) | No information available. |
| Hazard Class: | | |
| UN Number: | | |
| Packing Group: | | |

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 5117-16-8 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

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

This material contains 1,1-Dimethyl-2-selenourea (listed as Selenium compounds), 97%, (CAS# 5117-16-8) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 5117-16-8 (listed as Selenium compounds) is listed as a hazardous air pollutant (HAP).

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. CAS# 5117-16-8 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

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

STATE

CAS# 5117-16-8 can be found on the following state right to know lists: California, (listed as Selenium compounds), Pennsylvania, (listed as Selenium compounds).

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 23/25 Toxic by inhalation and if swallowed.

R 33 Danger of cumulative effects.

Safety Phrases:

S 20/21 When using do not eat, drink or smoke.

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# 5117-16-8: No information available.

Canada - DSL/NDSL

CAS# 5117-16-8 is listed on Canada's NDSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B.

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# 5117-16-8 (listed as Selenium compounds) is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997

Revision #8 Date: 10/31/2005

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.