

# Material Safety Data Sheet

## Ethylene Sulfide, 98+%, stabilized with 0.5% Butylmercaptane

ACC# 25783

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Ethylene Sulfide, 98+%, stabilized with 0.5% Butylmercaptane

**Catalog Numbers:** AC156080250, AC156081000

**Synonyms:** 2,3-dihydrothiirene; ethylene episulfide; thiacyclopropane

**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
420-12-2	Ethylene sulfide	98+%	206-993-9
	Butylmercaptane	0.5%	unlisted

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 10 deg C.

**Warning! Flammable liquid and vapor.** Causes eye irritation. Harmful if inhaled or swallowed. Stench. May cause skin and respiratory tract irritation.

**Target Organs:** Central nervous system, lungs, peripheral nervous system.

#### Potential Health Effects

**Eye:** Causes severe eye irritation.

**Skin:** May cause skin irritation.

**Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract. May cause central nervous system depression. May cause central nervous system effects and/or neurological effects. May cause tingling and numbness of the extremities. Continued exposure may result in muscular weakness, difficulty in maintaining balance, and clumsiness in walking and the use of hands. Peripheral nervous system effects are characterized by muscular weakness, paresthesias, numbness in limbs, unsteadiness and difficulties in walking and standing.

**Inhalation:** May cause respiratory tract irritation. May cause peripheral nervous system effects. 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. High concentrations may cause pulmonary edema and lung hemorrhages.

**Chronic:** Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.

### 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 immediately.

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

**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**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.

**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. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Vapors may form an explosive mixture with air.

**Extinguishing Media:** Use water spray to cool fire-exposed containers. Use foam, dry chemical, or carbon dioxide.

**Flash Point:** 10 deg C (50.00 deg F)

**Autoignition Temperature:** Not available.

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

**Upper:** Not available.

**NFPA Rating:** Not published.

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wash area with soap and water. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Isolate area and deny entry. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:** Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a cool, dry place. Refrigerator/flammables.

## 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 only under a chemical fume hood.

**Exposure Limits**

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethylene sulfide	none listed	none listed	none listed
Butylmercaptane	none listed	none listed	none listed

**OSHA Vacated PELs:** Ethylene sulfide: No OSHA Vacated PELs are listed for this chemical. Butylmercaptane: 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:** Liquid

**Appearance:** clear, colorless

**Odor:** stench

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** 2.07

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 55 - 56 deg C @ 760.00mm Hg

**Freezing/Melting Point:** Not available.

**Decomposition Temperature:** Not available.

**Solubility:** Immiscible.

**Specific Gravity/Density:** 1.0100 g/cm3

**Molecular Formula:** C2H4S

**Molecular Weight:** 60.11

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, ignition sources, excess heat.

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

**Hazardous Decomposition Products:** Carbon monoxide, oxides of sulfur, irritating and toxic fumes and gases, carbon dioxide, hydrogen sulfide.

**Hazardous Polymerization:** May occur.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 420-12-2: KX3500000

**CAS#** unlisted.

**LD50/LC50:**

**CAS#** 420-12-2:

Draize test, rabbit, eye: 100 mg Severe;  
Inhalation, mouse: LC50 = 1400 mg/m3;  
Inhalation, rat: LC50 = 690 ppm/6H;  
Oral, mouse: LD50 = 35600 ug/kg;  
Oral, rat: LD50 = 178 mg/kg;

CAS# :

**Carcinogenicity:**

CAS# 420-12-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# : Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No data available.

**Teratogenicity:** No data available.

**Reproductive Effects:** No data available.

**Mutagenicity:** No data available.

**Neurotoxicity:** No data available.

**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

	<b>US DOT</b>	<b>Canada TDG</b>
<b>Shipping Name:</b>	FLAMMABLE LIQUIDS, TOXIC, N.O.S.	FLAMMABLE LIQUID TOXIC NOS (ETHYLENE SULFIDE)
<b>Hazard Class:</b>	3	3(6.1)
<b>UN Number:</b>	UN1992	UN1992
<b>Packing Group:</b>	II	II
<b>Additional Info:</b>		FP 10 C

## Section 15 - Regulatory Information

### US FEDERAL

**TSCA**

CAS# 420-12-2 is listed on the TSCA inventory.

CAS# is not listed on the TSCA inventory. It is for research and development use only.

**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** 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# 420-12-2 can be found on the following state right to know lists: California.

CAS# is not present on state lists from CA, PA, MN, MA, FL, or NJ.

**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:**

F

**Risk Phrases:**

R 11 Highly flammable.  
R 25 Toxic if swallowed.  
R 36 Irritating to eyes.  
R 20 Harmful by inhalation.

**Safety Phrases:**

S 16 Keep away from sources of ignition - No smoking.  
S 23 Do not inhale gas/fumes/vapour/spray.  
S 24/25 Avoid contact with skin and eyes.  
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
S 46 If swallowed, seek medical advice immediately and show this container or label.

**WGK (Water Danger/Protection)**

CAS# 420-12-2: No information available.  
CAS# : No information available.

**Canada - DSL/NDSL**

CAS# 420-12-2 is listed on Canada's NDSL List.

**Canada - WHMIS**

not available.

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**

**Section 16 - Additional Information**

**MSDS Creation Date:** 3/16/1998

**Revision #3 Date:** 10/03/2005

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