

# Material Safety Data Sheet

## (3-Mercaptopropyl)trimethoxysilane tech. 85%

ACC# 86997

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** (3-Mercaptopropyl)trimethoxysilane tech. 85%

**Catalog Numbers:** AC174650500

**Synonyms:** Trimethoxysilylpropanethiol; 3-Mercaptopropyltrimethoxysilane; 3-Trimethoxysilylpropane-1-thiol; gamma-Mercaptopropyltrimethoxysilane; Propane-1-thiol, 3-(trimethoxysilyl)-.

**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
4420-74-0	(3-Mercaptopropyl)trimethoxysilane	>85	224-588-5
2530-87-2	Silane, (3-chloropropyl)trimethoxy-	<15	219-787-9
33580-59-5	(3-Methoxypropyl)trimethoxysilane	<2	unlisted
67-56-1	Methyl alcohol	<1	200-659-6

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 88 deg C.

**Warning!** Harmful if swallowed. Causes eye, skin, and respiratory tract irritation. Stench. May cause allergic skin reaction.

**Combustible liquid and vapor.** May cause central nervous system depression. Contact with moisture liberates methanol.

**Target Organs:** Central nervous system, respiratory system, eyes, skin.

#### Potential Health Effects

**Eye:** Causes eye irritation. Methanol is a mild to moderate eye irritant. Inhalation, ingestion or skin absorption of methanol can cause significant disturbances in vision, including blindness.

**Skin:** Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

**Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract. Ingestion may cause headache, nausea, and vomiting.

**Inhalation:** Causes respiratory tract irritation. May be harmful if inhaled.

**Chronic:** Prolonged or repeated skin contact may cause irritation.

### 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. 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 immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or 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.

**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. Combustible liquid. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.

**Extinguishing Media:** Use water spray to cool fire-exposed containers. Do NOT get water inside containers. In case of fire, use carbon dioxide, dry chemical powder or appropriate foam.

**Flash Point:** 88 deg C ( 190.40 deg F)

**Autoignition Temperature:** 235 deg C ( 455.00 deg F)

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

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 2; Instability: 0; Special Hazard: -W-

### Section 6 - Accidental Release Measures

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

**Spills/Leaks:** Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Use a spark-proof tool. Provide ventilation. Do not get water inside containers.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not allow contact with water. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep from contact with moist air and steam.

**Storage:** Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

## 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 general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
(3-Mercaptopropyl)trimethoxysilane	none listed	none listed	none listed
Silane, (3-chloropropyl)trimethoxy-	none listed	none listed	none listed
(3-Methoxypropyl)trimethoxysilane	none listed	none listed	none listed
Methyl alcohol	200 ppm TWA; 250 ppm STEL; Skin - potential significant contribution to overall exposure by the cutaneous route	200 ppm TWA; 260 mg/m <sup>3</sup> TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** (3-Mercaptopropyl)trimethoxysilane: No OSHA Vacated PELs are listed for this chemical. Silane, (3-chloropropyl)trimethoxy-: No OSHA Vacated PELs are listed for this chemical. (3-Methoxypropyl)trimethoxysilane: No OSHA Vacated PELs are listed for this chemical. Methyl alcohol: 200 ppm TWA; 260 mg/m<sup>3</sup> TWA

### Personal Protective Equipment

**Eyes:** Wear chemical splash goggles.

**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:** Liquid

**Appearance:** clear, colorless

**Odor:** stench

**pH:** Not available.

**Vapor Pressure:** <5 mmHg @ 20 C

**Vapor Density:** 6.77

**Evaporation Rate:** Not available.

**Viscosity:** 2 mPa.s @ 20 deg C

**Boiling Point:** 215 deg C @ 760 mm Hg

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

**Decomposition Temperature:** Not available.

**Solubility:** Hydrolysis.

**Specific Gravity/Density:** 1.05 g/ml

**Molecular Formula:** C<sub>6</sub>H<sub>16</sub>O<sub>3</sub>SSi

**Molecular Weight:** 196.34

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures. Material generates methanol on contact with water or moisture on the skin, eyes and mucous membranes.

**Conditions to Avoid:** Ignition sources, excess heat, Reacts with water to form methanol. The heat of the reaction may ignite the vapor of the alcohol.

**Incompatibilities with Other Materials:** Strong oxidizing agents, strong acids, alcohols, water.

**Hazardous Decomposition Products:** Carbon monoxide, oxides of sulfur, carbon dioxide, silicon dioxide, methanol.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 4420-74-0: TZ7800000

**CAS#** 2530-87-2: VV2680000

**CAS#** 33580-59-5: KO2290000

**CAS#** 67-56-1: PC1400000

**LD50/LC50:**

**CAS#** 4420-74-0:

Oral, rat: LD50 = 730 uL/kg;

Skin, rabbit: LD50 = 2140 uL/kg;

**CAS#** 2530-87-2:

Oral, rat: LD50 = 6170 uL/kg;

Skin, rabbit: LD50 = 2830 uL/kg;

**CAS#** 33580-59-5:

**CAS#** 67-56-1:

Draize test, rabbit, eye: 40 mg Moderate;

Draize test, rabbit, eye: 100 mg/24H Moderate;

Draize test, rabbit, skin: 20 mg/24H Moderate;

Inhalation, rabbit: LC50 = 81000 mg/m3/14H;

Inhalation, rat: LC50 = 64000 ppm/4H;

Oral, mouse: LD50 = 7300 mg/kg;

Oral, rabbit: LD50 = 14200 mg/kg;

Oral, rat: LD50 = 5600 mg/kg;

Skin, rabbit: LD50 = 15800 mg/kg;

**Carcinogenicity:**

**CAS#** 4420-74-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**CAS#** 2530-87-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**CAS#** 33580-59-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**CAS#** 67-56-1: 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:**

**CAS#** 67-56-1: waste number U154 (Ignitable waste).

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	AVIATION REGULATED LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQ
<b>Hazard Class:</b>	9	9
<b>UN Number:</b>	UN3334	UN3082
<b>Packing Group:</b>		III

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

**CAS#** 4420-74-0 is listed on the TSCA inventory.

**CAS#** 2530-87-2 is listed on the TSCA inventory.

**CAS#** 33580-59-5 is not listed on the TSCA inventory. It is for research and development use only.

**CAS#** 67-56-1 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# 67-56-1: 5000 lb final RQ; 2270 kg final RQ

**SARA Section 302 Extremely Hazardous Substances**

None of the chemicals in this product have a TPQ.

**SARA Codes**

CAS # 67-56-1: immediate, fire.

**Section 313**

Methyl alcohol is not at a high enough concentration to be reportable under Section 313. No chemicals are reportable under Section 313.

**Clean Air Act:**

CAS# 67-56-1 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.

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# 4420-74-0 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 2530-87-2 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 33580-59-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 67-56-1 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, 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:**

XN N

**Risk Phrases:**

R 22 Harmful if swallowed.

R 43 May cause sensitization by skin contact.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety Phrases:**

S 24 Avoid contact with skin.

S 37 Wear suitable gloves.

S 57 Use appropriate containment to avoid environmental contamination.

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

**WGK (Water Danger/Protection)**

CAS# 4420-74-0: 1

CAS# 2530-87-2: 1

CAS# 33580-59-5: No information available.

CAS# 67-56-1: 1

**Canada - DSL/NDSL**

CAS# 4420-74-0 is listed on Canada's DSL List.

CAS# 2530-87-2 is listed on Canada's DSL List.

CAS# 67-56-1 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of B3, 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# 67-56-1 is listed on the Canadian Ingredient Disclosure List.

**Section 16 - Additional Information**

**MSDS Creation Date:** 9/02/1997

**Revision #7 Date:** 7/08/2004

*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.*