Material Safety Data Sheet
1,2-Ethanedithiol

ACC# 97276

Section 1 - Chemical Product and Company Identification

**MSDS Name:** 1,2-Ethanedithiol  
**Catalog Numbers:** AC117851000, AC117852500, AC409470000, AC409470250  
**Synonyms:** Dithioethyleneglycol; 1,2-Dimercaptoethane; Ethylenedimercaptan.  
**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

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>540-63-6</td>
<td>1,2-Ethanedithiol</td>
<td>95</td>
<td>208-752-3</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: clear, colorless liquid. Flash Point: 50 deg C.  
**Warning!** Breathing vapors may cause headache and nausea. **Flammable liquid and vapor.**  
Causes eye, skin, and respiratory tract irritation. Harmful if inhaled or swallowed. Stench. May be harmful if absorbed through the skin.  
**Target Organs:** Central nervous system, respiratory system, eyes, skin.

**Potential Health Effects**  
**Eye:** Causes eye irritation.  
**Skin:** Causes skin irritation. May be harmful if absorbed through the skin. Four out of six rabbits died following 24-hour exposure in a primary dermal irritation study (dose unspecified).  
**Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract. 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.  
**Inhalation:** Harmful if inhaled. Causes respiratory tract irritation. 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.  
**Chronic:** No information found.

Section 4 - First Aid Measures

https://fscimage.fishersci.com/msds/97276.htm
**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

**Skin:** In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. 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:** Treat symptomatically and supportively.

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### 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. Flammable liquid and vapor. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

**Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.

**Flash Point:** 50 deg C (122.00 deg F)

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** 1.9%

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 2; Instability: 0

### 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. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Evacuate unnecessary personnel. Approach spill from upwind.

### Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. 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. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Avoid breathing vapor or mist.

**Storage:** Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

### 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**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Ethanedithiol</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: 1,2-Ethanedithiol: No OSHA Vacated PELs are listed for this chemical.

**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:** 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.

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### Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** clear, colorless

**Odor:** stench

**pH:** Not available.

**Vapor Pressure:** 4.8 mm Hg @ 20 deg C

**Vapor Density:** 3.2 (air=1)

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 144-146 deg C @ 760 mm Hg

**Freezing/Melting Point:** -41 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Insoluble.

**Specific Gravity/Density:** 1.1230 g/ml

**Molecular Formula:** C2H6S2

**Molecular Weight:** 94.19

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### Section 10 - Stability and Reactivity

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

**Conditions to Avoid:** Ignition sources, excess heat, confined spaces.

**Incompatibilities with Other Materials:** Strong oxidizing agents, strong reducing agents, strong acids, alkali metals, nitric acid, steel.

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

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

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### Section 11 - Toxicological Information


RTECS#:  
CAS# 540-63-6: KI3325000

LD50/LC50:  
CAS# 540-63-6:  
Oral, mouse: LD50 = 342 mg/kg; Oral, rat: LD50 = 144 mg/kg. rabbit: LD50 = 1189 mg/kg.  
Oral, rat: LC50 = 1.171 mg/L/4H. ation, rat: LC50 = 4.684 mg/L/1H.

Carcinogenicity:  
CAS# 540-63-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Mutagenicity: No information available.
Neurotoxicity: No information 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

<table>
<thead>
<tr>
<th>Shipping Name:</th>
<th>US DOT</th>
<th>Canada TDG</th>
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<tbody>
<tr>
<td></td>
<td>MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S.</td>
<td>MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.</td>
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<td>Hazard Class:</td>
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<td>3</td>
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<tr>
<td>UN Number:</td>
<td>UN1228</td>
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<tr>
<td>Packing Group:</td>
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<td>III</td>
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</tbody>
</table>

Section 15 - Regulatory Information

US FEDERAL

TSCA  
CAS# 540-63-6 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**

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 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# 540-63-6 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:**

- T

**Risk Phrases:**

- R 10 Flammable.
- R 21 Harmful in contact with skin.
- R 23/25 Toxic by inhalation and if swallowed.

**Safety Phrases:**

- S 16 Keep away from sources of ignition - No smoking.
- S 25 Avoid contact with eyes.
- S 33 Take precautionary measures against static discharges.
- 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 9 Keep container in a well-ventilated place.
- S 28A After contact with skin, wash immediately with plenty of water.

**WGK (Water Danger/Protection)**

CAS# 540-63-6: No information available.

**Canada - DSL/NDSL**

CAS# 540-63-6 is listed on Canada’s DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of B3, D1B.

**Canadian Ingredient Disclosure List**

Section 16 - Additional Information
MSDS Creation Date: 12/15/1998
Revision #4 Date: 4/11/2005

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.