

Material Safety Data Sheet

Thioglycolic acid

ACC# 23340

Section 1 - Chemical Product and Company Identification

MSDS Name: Thioglycolic acid

Catalog Numbers: AC125430000, AC125430010, AC125430100, AC125432500, A319-100

Synonyms: Mercaptoacetic acid; Acetyl mercaptan; Thiolacetic acid; Thioglycolic acid; 2-Mercaptoacetic acid; Thiovanic acid; Ethanethioic acid.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
68-11-1	Thioglycolic acid	>96	200-677-4

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid.

Danger! Causes severe eye and skin burns. May be fatal if inhaled or absorbed through skin. Causes digestive and respiratory tract burns. Harmful if swallowed. Stench. Keep refrigerated. (Store below 4°C/39°F.)

Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes severe eye burns. May cause irreversible eye injury. Solutions as dilute as 3% cause irritation.

Skin: May be fatal if absorbed through the skin. Causes skin burns. Application of thioglycolic acid as a single dermal-application patch test resulted in necrosis in 5 minutes. The LD50 in rabbits through percutaneous absorption applying a 10% solution was 848 mg/kg (Documentation of the TLV). Limited animal and human information suggests that thioglycolic acid does not cause skin sensitization.

Ingestion: Harmful if swallowed. Causes gastrointestinal tract burns. Mercaptans may cause nausea and headache. 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: May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Olfactory fatigue may occur. 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. Thioglycolic acid is not likely to accumulate in the body based on its chemical

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin: POISON material. In case of contact, get medical aid immediately. Immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation: POISON material. If inhaled, get medical aid immediately. Remove victim to fresh air. 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. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

Extinguishing Media: Water or foam may cause frothing. Use water spray, dry chemical, or carbon dioxide.

Flash Point: 128 deg C (262.40 deg F)

Autoignition Temperature: 350 deg C (662.00 deg F)

Explosion Limits, Lower:5.9%

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 1; 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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not get in eyes, on skin, or on clothing. Discard contaminated shoes. Do not breathe vapor or mist. Use only with adequate ventilation or respiratory protection.

Storage: Keep container closed when not in use. Corrosives area. Keep refrigerated. (Store below 4°C/39°F.) Store in a cool, well-ventilated area away from incompatible substances.

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 exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Thioglycolic acid	1 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous route	1 ppm TWA; 4 mg/m ³ TWA	none listed

OSHA Vacated PELs: Thioglycolic acid: 1 ppm TWA; 4 mg/m³ 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: unpleasant odor - sulfide odor - garlic-like odor - stench

pH: 1.6 (10% aq soln)

Vapor Pressure: 0.0868 mm Hg @ 25 deg C

Vapor Density: 3.18 (air=1)

Evaporation Rate: Not available.

Viscosity: 6.35 cPs @ 20 deg C

Boiling Point: 123 deg C @ 29 mmHg

Freezing/Melting Point: -16.5 deg C

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 1.325 @ 20°C

Molecular Formula: C₂H₄O₂S

Molecular Weight: 92.11

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Oxidizes when exposed to air.

Conditions to Avoid: Excess heat, prolonged exposure to air.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, strong bases, alkali metals, alkaline earth metals.

Hazardous Decomposition Products: Carbon monoxide, oxides of sulfur, carbon dioxide, hydrogen sulfide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 68-11-1: AI5950000

LD50/LC50:

CAS# 68-11-1:

Inhalation, rat: LC50 = 210 mg/m³/4H;

Oral, mouse: LD50 = 242 mg/kg;

Oral, rabbit: LD50 = 119 mg/kg;

Oral, rat: LD50 = 114 mg/kg;

Carcinogenicity:

CAS# 68-11-1: 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

	US DOT	Canada TDG
Shipping Name:	THIOGLYCOLIC ACID	THIOGLYCOLIC ACID
Hazard Class:	8	8
UN Number:	UN1940	UN1940
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 68-11-1 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

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.

SARA Codes

CAS # 68-11-1: immediate.

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# 68-11-1 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:

T C

Risk Phrases:

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 34 Causes burns.

Safety Phrases:

- S 25 Avoid contact with eyes.
- S 27 Take off immediately all contaminated clothing.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 28C After contact with skin, wash immediately with a sodium borate solution.

WGK (Water Danger/Protection)

CAS# 68-11-1: 1

Canada - DSL/NDSL

CAS# 68-11-1 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1A, E.

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# 68-11-1 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information
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MSDS Creation Date: 10/23/1998

Revision #5 Date: 6/06/2006

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.