TCI AMERICA

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	**Corrosive to eyes and skin on contact.** **Toxic compound, do not ingest or inhale. Avoid all contact with this material. Readily absorbed through skin.** **Vesicant.** **Freeze.**	

Section I. Chemical Product and Company Identification

Chemical Name **Thioglycolic Acid**

Catalog Number	M0052
Synonym	Mercaptoacetic Acid
Chemical Formula	$HSCH_2COOH$
CAS Number	68-11-1

Supplier
TCI America
9211 N. Harborgate St.
Portland OR
1-800-423-8616

In case of Emergency Call
Chemtrec®
(800) 424-9300 (U.S.)
(703) 527-3887 (International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Thioglycolic Acid	68-11-1	Min. 80.0 (T)	Not available.	Rat LD_{50} (oral) 114 mg/kg Rabbit LD_{50} (dermal) 848 mg/kg Rat LD_{50} (inhalation) 210 mg/m^3 /4H

Section III. Hazards Identification

Acute Health Effects

Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested.
Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death.
Readily absorbed through skin.
Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Chronic Health Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section IV. First Aid Measures

Eye Contact

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Inhalation

If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.

Ingestion

DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	350°C (662°F)
Flash Points	119°C (246.2°F).	Flammable Limits	LOWER: 5.9%

Combustion Products: These products are toxic carbon oxides (CO, CO_2), sulfur oxides (SO_2, SO_3...).

Fire Hazards: Not available.

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Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. Consult with local fire authorities before attempting large scale fire-fighting operations.

Section VI. Accidental Release Measures

Spill Cleanup Instructions	Corrosive Material. Toxic Material. Readily Absorbed Through Skin. Vesicant. Freeze. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside container. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and Storage

Handling and Storage Information	CORROSIVE. TOXIC. READILY ABSORBED THROUGH SKIN. VESICANT. FREEZE. Keep locked up.. Keep container dry. Keep away from heat. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Always store away from incompatible compounds such as oxidizing agents, organic materials, acids, alkalis (bases).

Section VIII. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.
Personal Protection	Face shield. Lab coat. Vapor respirator. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. 
Exposure Limits	Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Liquid. (Clear, Colorless)	Solubility	Miscible with water, alcohol, ether, chloroform, benzene, and many other organic solvents.
Specific Gravity	1.3 (water=1)		
Molecular Weight	92.12	Partition Coefficient	Not available.
Boiling Point	96°C (204.8°F)	Vapor Pressure	0.1 kPa (@ 20°C)
Melting Point	-16°C (3.2°F)	Vapor Density	3.2 (Air = 1)
Refractive Index	1.505.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Stench. (Strong.)
Viscosity	6.55 Pas at 20°C	Taste	Not available.

Section X. Stability and Reactivity Data

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Avoid excessive heat and light.
Incompatibilities	Reactive with strong oxidizing agents, organic materials, strong acids, alkalis (bases).

Section XI. Toxicological Information

RTECS Number	AI5950000
Routes of Exposure	Eye Contact. Ingestion. Inhalation. Skin contact.
Toxicity Data	Rat LD_{50} (oral) 114 mg/kg Rabbit LD_{50} (dermal) 848 mg/kg Rat LD_{50} (inhalation) 210 mg/m^3/4H
Chronic Toxic Effects	**CARCINOGENIC EFFECTS** : Not available. **MUTAGENIC EFFECTS** : Not available. **TERATOGENIC EFFECTS** : Not available. **DEVELOPMENTAL TOXICITY**: Not available. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

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Acute Toxic Effects	Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Readily absorbed through skin. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Mercaptoacetic acid's production and use as an ingredient in permanent hair wave solutions and depilatories, as a chelating agent, chemical intermediate, vinyl stabilizer, and in the manufacture of pharmaceuticals may result in its release to the environment through various waste streams. If released to air, a vapor pressure of 8.7X10-2 mm Hg at 25 deg C indicates mercaptoacetic acid will exist solely as a vapor in the ambient atmosphere. Vapor-phase mercaptoacetic acid will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 10 hours. If released to soil, mercaptoacetic acid is expected to have very high mobility based upon an estimated Koc of 27. Volatilization from moist soil surfaces is not expected to be an important fate process based upon an estimated Henry's Law constant of 1.9X10-8 atm-cu m/mole. The pKa of mercaptoacetic acid is 3.6 indicating that this compound will exist in the dissociated form in the environment and anions generally do not adsorb to organic carbon and clay more strongly than their neutral counterparts. Mercaptoacetic acid is expected to biodegrade in soil based upon numerous aqueous biodegradation tests, although acclimation may be important. If released into water, mercaptoacetic acid is not expected to adsorb to suspended solids and sediment in water based upon the estimated Koc. Mercaptoacetic acid is expected to biodegrade in aquatic systems although acclimation may be important, based on numerous aqueous aerobic biodegradation tests that used soil or activated sludge inoculum. Volatilization from water surfaces is not expected to be an important fate process based upon this compound's estimated Henry's Law constant. Furthermore, a pKa of 3.8 indicates mercaptoacetic acid will exist almost entirely in the ionized form at pH values of 5 to 9 and anions are not expected to volatile from water surfaces. An estimated BCF of 0.69 suggests the potential for bioconcentration in aquatic organisms is low. Hydrolysis is not expected to occur due to the lack of hydrolyzable functional groups. Occupational exposure to mercaptoacetic acid may occur through inhalation of aerosols or dermal contact with this compound at workplaces where it is produced or used. The general population may be exposed to mercaptoacetic acid via inhalation of aerosols or dermal contact with this compound associated with its use in hair waving solutions.

Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

Section XIV. Transport Information

DOT Classification	DOT CLASS 8: Corrosive Material.
PIN Number	UN1940
Proper Shipping Name	Thioglycolic Acid
Packing Group (PG)	II
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This compound is **ON** the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	On DSL.
EINECS Number (EEC)	200-677-4
EEC Risk Statements	R34- Causes burns. R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.
Japanese Regulatory Data	ENCS No. 2-1355

Section XVI. Other Information

Version 1.0
Validated on 2/17/2005.
Printed 2/28/2005.

Notice to Reader

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Printed 2/28/2005.