

Material Safety Data Sheet

Date Printed: 18/AUG/2005
Date Updated: 03/MAR/2005
Version 1.2
According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	MERCAPTOACETIC ACID, 99+% (TGA99) (WORLD WIDE EXCEPT NORTH AMERICA)
Product Number	528056
Company	Sigma-Aldrich Pty. Ltd. 12 Anella Avenue Castle Hill NSW 2154 Australia
Technical Phone #	+61 2 9841 0555 (1800 800 097)
Fax	+61 2 9841 0500 (1800 800 096)
Emergency Phone #	+44 8701906777 (1800 448 465)

2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
THIOGLYCOLIC ACID	68-11-1	200-677-4	607-090-00-6
Formula	C2H4O2S		
Molecular Weight	92.12 AMU		
Synonyms	Acide thioglycolique (French) * Glycolic acid, thio- * Glycolic acid, 2-thio- * Kyselina merkaptooctova (Czech) * Kyselina thioglykolova (Czech) * Mercaptoacetate * Mercaptoacetic acid * alpha-Mercaptoacetic acid * 2-Mercaptoacetic acid * Thioglycolic acid * 2-Thioglycolic acid * Thioglycolic acid (ACGIH) * Thioglycollic acid * Thiovanic acid * USAF CB-35		

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Toxic by inhalation, in contact with skin and if swallowed. Causes burns.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.
Store at 2-8°C

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	4 MG/M3
Poland		NDSCh	8 MG/M3
Poland		NDSP	-

EXPOSURE LIMITS - DENMARK

Source	Type	Value

OEL	TWA	5 mg/m ³
		1 ppm

EXPOSURE LIMITS - GERMANY

Source	Type	Value
TRGS 900	OEL	4 mg/m ³

Remarks: H, NL

EXPOSURE LIMITS - NORWAY

Source	Type	Value
	OEL	5 mg/m ³
		1 ppm

EXPOSURE LIMITS - SWEDEN

Source	Type	Value
	LLV (Level 4)	4 mg/m ³
		1 ppm

Remarks: H

EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	4 mg/m ³
		1 ppm

Remarks: H

EXPOSURE LIMITS - UNITED KINGDOM

Source	Type	Value
OEL	OEL	3.8 mg/m ³
		1 ppm

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Liquid	
Property	Value	At Temperature or Pressure
pH	1.5	20 °C Concentration: 10 g/l
BP/BP Range	96 °C	5 mmHg
MP/MP Range	-16 °C	
Flash Point	130 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	350 °C	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	Lower: 5.9 %	
Vapor Pressure	0.4 mmHg	25 °C
SG/Density	1.325 g/cm ³	
Partition Coefficient	Log Kow: 0.059	
Viscosity	6.55 Pas	20 °C
Vapor Density	3.2 g/l	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	

Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	Solubility in Water: Miscible. Other Solvents: MISCELLY WITH ALCOHOL, ETHER CHLOROFORM, BENZENE

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Sulfur oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: AI5950000

ACUTE TOXICITY

LC50

Inhalation

Rat

21 mg/m³

4

LD50

Skin

Rabbit

848 mg/kg

LD50

Oral

Rat

114 mg/kg

LD50

Intraperitoneal

Rat

70 MG/KG

LD50

Oral

Mouse

242 mg/kg

LD50

Skin

Mouse

47 mg/kg

Remarks: Behavioral:Tremor. Behavioral:Convulsions or effect on seizure threshold.

LD50

Intraperitoneal

Mouse

138 MG/KG

LD50
Intravenous
Mouse
145 MG/KG

LD50
Oral
Rabbit
119 mg/kg

LD50
Intravenous
Rabbit
100 MG/KG

LD50
Oral
Guinea pig
126 mg/kg

LD50
Intraperitoneal
Guinea pig
157 MG/KG

LD50
Oral
Mammal
250 mg/kg

IRRITATION DATA

Skin
Human
3 %

SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

ROUTE OF EXPOSURE

Skin Contact: Causes burns. Causes blisters on contact with skin.
Skin Absorption: May be fatal if absorbed through skin. Readily absorbed through skin.
Eye Contact: Causes burns.
Inhalation: May be fatal if inhaled.
Ingestion: Toxic if swallowed.

12 - Ecological Information

ECOTOXICOLOGICAL EFFECTS

Test Type: LC50 Fish
Species: Pimephales promelas (Fathead minnow)
Time: 96 h
Value: 30 mg/l

Test Type: LC50 Fish
Species: Leuciscus idus
Value: 103 mg/l

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 1940
Class: 8
PG: II
Proper Shipping Name: Thioglycolic acid

IMDG

UN#: 1940
Class: 8
PG: II
Proper Shipping Name: Thioglycolic acid
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 1940
Class: 8
PG: II
Proper Shipping Name: Thioglycolic acid
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 607-090-00-6

INDICATION OF DANGER: T

Toxic.

R-PHRASES: 23/24/25 34

Toxic by inhalation, in contact with skin and if swallowed.

Causes burns.

S-PHRASES: 25 27 28 45

Avoid contact with eyes. Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of soap-suds. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

COUNTRY SPECIFIC INFORMATION

Germany
WGK: 1

SWITZERLAND
SWISS POISON CLASS: 2

16 - Other Information

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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