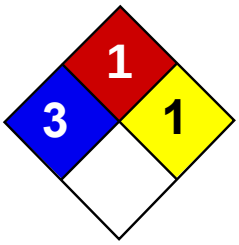
Safety Data Sheet

Thioglycolic acid



Section 1: Chemical Product and Company Identification

Product Name: Thioglycolic acid

Catalog Codes: 292

CAS#: 68-11-1

RTECS: -

TSCA: -

Synonym: Mercaptoacetic acid, 2-Mercaptoethanoic acid

Chemical Name: Thioglycolic acid

Chemical Formula: $HSCH_2COOH$

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Thioglycolic acid	68-11-1	-

Toxicological Data on Ingredients:

Section 3: Hazards Identification

3.1 Classification of the substance or mixture

Acute toxicity, (Category 3)	H301: Toxic if swallowed
Acute toxicity, (Category 3)	H331: Toxic if inhaled.
Acute toxicity, (Category 3)	H311: Toxic in contact with skin.
Skin corrosion, (Sub-category 1B)	H314: Causes severe skin burns and eye damage.
Serious eye damage, (Category 1)	H318: Causes serious eye damage
Skin sensitization, (Sub-category 1B)	H317: May cause an allergic skin reaction.
Long-term (chronic) aquatic hazard, (Category 3)	H412: Harmful to aquatic life with long lasting effects.

3.2 Label elements

Pictogram	
Signal Word	Danger
Hazard Statements	
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled.
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.
Precautionary Statements	
P261	Avoid breathing mist or vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard information	none

Pictogram	
Signal Word	Danger
Hazard Statements	
H317	May cause an allergic skin reaction.
H314	Causes severe skin burns and eye damage.
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P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard statements	none

3.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Section 4: First Aid Measures

4.1 Description of first-aid measures

General advice
First aiders need to protect themselves. Show this safety data sheet to the doctor in attendance

If inhaled
After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact
After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed
If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 3.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

Section 5: Fire and Explosion Data

5.1 Extinguishing media

Suitable extinguishing media
Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

Sulfur oxides
Combustible.
Fire may cause evolution of:
Sulfur oxides
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® H^+, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

6.4 Reference to other sections
For disposal see section 13.

Section 7: Handling and Storage

7.1 Precautions for safe handling
Advice on safe handling
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 3.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Transport and store in stainless steel with PE lining or in polyester containers. Transport times max. 1 - 2 weeks. Temperatures above +10°C cause alterations to the goods transported or stored (by formation of 1,4-dithioglycolides). Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Recommended storage temperature see product label.
Storage class
Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: Exposure Controls/Personal Protection

8.1 Control parameters
Ingredients with workplace control parameters

8.2 Exposure controls
Personal protective equipment

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell,

Internet: www.kcl.de).
Full contact
Material: Chloroprene
Minimum layer thickness: 0.65 mm
Break through time: 480 min
Material tested:KCL 720 Camapren®

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: Latex gloves
Minimum layer thickness: 0,6 mm
Break through time: 120 min
Material tested:Lapren® (KCL 706 / Aldrich Z677558, Size M)

Body Protection
Acid-resistant protective clothing

Respiratory protection
Recommended Filter type: Respirator.
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure
Do not let product enter drains.

Section 9: Physical and Chemical Properties

Physical state	liquid
Color	colorless
Odor	Stench
pH	1,5 at 10 g/l at 20 °C
Melting point/freezing point	Melting point: -15,2 °C - Regulation (EC) No. 440/2008, Annex, A.1
Initial boiling point and boiling range	71,78 °C at 1.013 hPa - Regulation (EC) No. 440/2008, Annex, A.2
Flash point	130 °C - closed cup
Decomposition temperature	No data available
Flammability (solid, gas)	No data available

Upper/lower flammability or explosive limits	Lower explosion limit: 5,9 %(V)
Vapor pressure	0,5 hPa at 25 °C
Density	1,325 g/cm3
Relative density	No data available
Water solubility	1.000 g/l at 20 °C - OECD Test Guideline 105- completely soluble
Partition coefficient: n-octanol/water	log Pow: -2,99 at 22 °C - Bioaccumulation is not expected.
Autoignition Temperature	315 °C at 1.020 hPa - ASTM E-659
Decomposition Temperature	No data available
Viscosity	Viscosity, kinematic: 4,69 mm2/s at 20 °C - OECD Test Guideline 114 Viscosity, dynamic: 6,55 mPa.s at 20 °C
Explosive properties	Not classified as explosive.
Oxidizing properties	None
Other safety information	
Relative vapor density	3,18 - (Air = 1.0)

Section 10: Stability and Reactivity Data

10.1 Reactivity
Forms explosive mixtures with air on intense heating.
A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions
Violent reactions possible with:
Organic Substances
Strong oxidizing agents
strong alkalis

10.4 Conditions to avoid
Strong heating.

10.5 Incompatible materials
various metals

10.6 Hazardous decomposition products
In the event of fire: see section 5

Section 11: Toxicological Information

11.1 Information on toxicological effects
Mixture
Acute toxicity
LD50 Oral - Rat - male and female - > 50 - 200 mg/kg
(OECD Test Guideline 423)
Acute toxicity estimate Oral - 100 mg/kg
(ATE value derived from LD50/LC50 value)
Acute toxicity estimate Inhalation - 4 h - 3,1 mg/l – vapor

(Expert judgment)
LD50 Dermal - Rabbit - male and female - 848 mg/kg
(OECD Test Guideline 402)
Acute toxicity estimate Dermal - 848 mg/kg
(ATE value derived from LD50/LC50 value)

Skin corrosion/irritation
Skin - reconstructed human epidermis (RhE)
Result: Causes burns. - 3 - 60 min
Remarks: (ECHA)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye damage.
(Regulation (EC) No. 440/2008, Annex, B.5)
Remarks: Causes serious eye damage.

Respiratory or skin sensitization
Local lymph node assay (LLNA) – Mouse
Result: positive
(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test

Test system: S. typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: Regulation (EC) No. 440/2008, Annex, B.17
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Dermal
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Additional Information
Endocrine disrupting properties
Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU)

2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks - NOAEL (No observed adverse effect level) - 20 mg/kg - LOAEL (Lowest observed adverse effect level) - 60 mg/kg

Repeated dose toxicity - Rat - male and female - Dermal - 14 Weeks - NOAEL (No observed adverse effect level) - >= 180 mg/kg - LOAEL (Lowest observed adverse effect level) - 11,25 mg/kg

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information

12.1 Toxicity

Toxicity to fish	flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - > 100 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates (Chronic	static test EC50 - Daphnia magna (Water flea) - 38 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata - 27 mg/l - 72 h (OECD Test Guideline 201) static test EC10 - Pseudokirchneriella subcapitata - 0,8 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC50 - activated sludge - 530 mg/l - 3 h (OECD Test Guideline 209) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Ammonium thioglycolate
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Daphnia magna (Water flea) - 2,7 mg/l - 21 d

12.2 Persistence and degradability

Biodegradability	Result: 70 % - Readily biodegradable. (OECD Test Guideline 301D)

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties
Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects
No data available

Section 13: Disposal Considerations

13.1 Waste treatment methods
No data available

Section 14: Transport Information

14.1 UN number
ADR/RID:1940 IMDG: 1940 IATA: 1940

14.2 UN proper shipping name
ADR/RID: THIOGLYCOLIC ACID
IMDG: THIOGLYCOLIC ACID

IATA: thioglycolic acid

14.3 Transport hazard class(es)

ADR/RID: 8	IMDG: 8	IATA: 8

14.4 Packaging group

ADR/RID: II	IMDG: II	IATA: II

14.5 Environmental hazards

ADR/RID: no	IMDG Marine pollutant: no	IATA: no

14.6 Special precautions for user

Tunnel restriction code: (E)
Further information: No data available

Section 15: Other Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	H2	ACUTE TOXIC

Other regulations Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

Section 16: Other Information

References: Not available

Other Special Considerations: Not available

Created: /08/2025

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