

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 05.09.2018

Version 22.1

SECTION 1. Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Catalogue No.	100700
Product name	Thioglycolic acid GR for analysis Reag. Ph Eur
REACH Registration Number	01-2119494933-24-xxxx
CAS-No.	68-11-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).
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1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number **Please contact the regional company representation in your country.**

SECTION 2. Hazards identification**2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Acute toxicity, Category 3, Oral, H301
Acute toxicity, Category 3, Inhalation, H331
Acute toxicity, Category 3, Dermal, H311
Skin corrosion, Category 1B, H314

For the full text of the H-Statements mentioned in this Section, see Section 16.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.

100700

Product name

Thioglycolic acid GR for analysis Reag. Ph Eur

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



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.

Precautionary statements

Prevention

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Reduced labelling (≤ 125 ml)

Hazard pictograms



Signal word

Danger

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100700
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Hazard statements

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P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Index-No. 607-090-00-6

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

Formula	HSCH ₂ COOH	C ₂ H ₄ O ₂ S (Hill)
Index-No.	607-090-00-6	
EC-No.	200-677-4	
Molar mass	92,11 g/mol	

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
Thioglycolic acid (<= 100 %)		
68-11-1	01-2119494933-24-xxxx	Acute toxicity, Category 3, H301 Acute toxicity, Category 3, H331 Acute toxicity, Category 3, H311 Skin corrosion, Category 1B, H314

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3.2 Mixture

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100700
Product name Thioglycolic acid GR for analysis Reag. Ph Eur

Not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures

General advice

First aider needs to protect himself.

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

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

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

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

Irritation and corrosion, Cough, Shortness of breath

Risk of blindness!

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100700
Product name Thioglycolic acid GR for analysis Reag. Ph Eur

Combustible.

Vapours 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.

Fire may cause evolution of:

Sulphur oxides

5.3 Advice for firefighters

Special protective equipment 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.

Further information

Suppress (knock down) gases/vapours/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 vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment 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 carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100700
Product name Thioglycolic acid GR for analysis Reag. Ph Eur

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

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).

Storage conditions

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Recommended storage temperature see product label.

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100700
Product name Thioglycolic acid GR for analysis Reag. Ph Eur

Derived No Effect Level (DNEL)

Worker DNEL, acute	Systemic effects	inhalation	4,5 mg/m ³
Worker DNEL, longterm	Systemic effects	dermal	1,6 mg/kg Body weight

Predicted No Effect Concentration (PNEC)

PNEC Fresh water sediment	0,0009 mg/kg
PNEC Soil	0,0053 mg/kg

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Tightly fitting safety goggles

Hand protection

full contact:

Glove material:	polychloroprene
Glove thickness:	0,65 mm
Break through time:	480 min

splash contact:

Glove material:	natural latex
Glove thickness:	0,6 mm
Break through time:	120 min

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100700
Product name Thioglycolic acid GR for analysis Reag. Ph Eur

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 720 Camapren® (full contact), KCL 706 Lapren® (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

Acid-resistant protective clothing

Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: Filter B (acc. to DIN 3181) for inorganic gases and vapours

The entrepreneur 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.

Environmental exposure controls

Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	unpleasant
Odour Threshold	No information available.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100700
Product name Thioglycolic acid GR for analysis Reag. Ph Eur

pH	1 at 20 °C
Melting point	-16,5 °C
Boiling point/boiling range	220 °C at 1.013 hPa (decomposition)
Flash point	131,5 °C Method: DIN 51758
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	0,1 hPa at 20 °C
Relative vapour density	No information available.
Density	1,325 g/cm ³ at 20 °C
Relative density	No information available.
Water solubility	at 20 °C soluble

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	100700
Product name	Thioglycolic acid GR for analysis Reag. Ph Eur

Partition coefficient: n-octanol/water	log Pow: 0,09 (experimental) (Lit.) Bioaccumulation is not expected.
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Auto-ignition temperature	No information available.
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Decomposition temperature	No information available.
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Viscosity, dynamic	6,55 mPa.s at 20 °C
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Explosive properties	Not classified as explosive.
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Oxidizing properties	none
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9.2 Other data

none

SECTION 10. Stability and reactivity

10.1 Reactivity

highly reactive

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

tendency towards instability

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100700
Product name Thioglycolic acid GR for analysis Reag. Ph Eur

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 Rat: 73 mg/kg

OECD Test Guideline 401

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Acute inhalation toxicity

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages: damage of respiratory tract, Inhalation may lead to the formation of oedemas in the respiratory tract., Symptoms may be delayed.

Acute dermal toxicity

Acute toxicity estimate : 300,1 mg/kg

Expert judgement

Skin irritation

Causes burns.

Eye irritation

Causes serious eye damage. Risk of blindness!

Sensitisation

Sensitisation test: Guinea pig

Result: negative

Method: OECD Test Guideline 406

Sensitisation possible in predisposed persons.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100700

Product name Thioglycolic acid GR for analysis Reag. Ph Eur

Germ cell mutagenicity

Genotoxicity in vivo

Micronucleus test

Result: negative

Method: OECD Test Guideline 474

Genotoxicity in vitro

Ames test

Result: negative

(IUCLID)

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

The following applies to mercaptans in general: offensive odour.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

SECTION 12. Ecological information

12.1 Toxicity

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100700
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Toxicity to fish

LC50 Pimephales promelas (fathead minnow): 30 mg/l; 96 h
(ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC50 Daphnia magna (Water flea): 38 mg/l; 48 h
(External MSDS)

Toxicity to algae

IC50 algae: 13 mg/l; 72 h
OECD Test Guideline 201

12.2 Persistence and degradability

Biodegradability

70 %; 28 d
OECD Test Guideline 301D
Readily biodegradable

Theoretical oxygen demand (ThOD)

1.220 mg/g

(Lit.)

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: 0,09
(experimental)

(Lit.) Bioaccumulation is not expected.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Discharge into the environment must be avoided.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100700
Product name Thioglycolic acid GR for analysis Reag. Ph Eur

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number	UN 1940
14.2 Proper shipping name	THIOGLYCOLIC ACID
14.3 Class	8
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 1940
14.2 Proper shipping name	THIOGLYCOLIC ACID
14.3 Class	8
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

Sea transport (IMDG)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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14.1 UN number UN 1940
14.2 Proper shipping name THIOGLYCOLIC ACID
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
EmS F-A S-B

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard SEVESO III
Legislation ACUTE TOXIC
H2
Quantity 1: 50 t
Quantity 2: 200 t

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

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100700
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Substances of very high concern (SVHC)

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of $\geq 0.1\%$ (w/w).

National legislation

Storage class 6.1C

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Danger

Hazard statements

H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.

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SAFETY DATA SHEET

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Prevention

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P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.