

Safety Data Sheet

according to UK REACH Regulation

Thioglycolic acid solution 10 % pure

Revision date: 15.08.2023

Product code: 04136

Page 1 of 11

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Thioglycolic acid solution 10 % pure

UFI: C3FC-J0HX-400V-R2P1

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

| | | |
|-------------------------|----------------------------------|------------------------------|
| Company name: | AnalytiChem GmbH | |
| Street: | Stempelstraße 6 | |
| Place: | D-47167 Duisburg | |
| Telephone: | 0203/5194-0 | Telefax: 0203/5194-290 |
| E-mail: | info@analytichem.de | |
| Contact person: | Abteilung Produktsicherheit | Telephone: 0203/5194-107/117 |
| E-mail: | produktsicherheit@analytichem.de | |
| Internet: | www.analytichem.de | |
| Responsible Department: | Abteilung Produktsicherheit | |

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

inapplicable, this product is a mixture REACH registration number see section 3

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Acute Tox. 4; H302

Acute Tox. 4; H332

Skin Corr. 1B; H314

Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

thioglycolic acid

Signal word: Danger

Pictograms:



Safety Data Sheet

according to UK REACH Regulation

Thioglycolic acid solution 10 % pure

Revision date: 15.08.2023

Product code: 04136

Page 2 of 11

Hazard statements

H302+H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

| CAS No | Chemical name | | | Quantity |
|---------|--|--------------|------------------|-------------|
| | EC No | Index No | REACH No | |
| | Classification (GB CLP Regulation) | | | |
| 68-11-1 | thioglycolic acid | | | 10 - < 15 % |
| | 200-677-4 | 607-090-00-6 | 01-2119494933-24 | |
| | Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Skin Corr. 1B; H331 H311 H301 H314 | | | |

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|---------|--|-------------------|-------------|
| | Specific Conc. Limits, M-factors and ATE | | |
| 68-11-1 | 200-677-4 | thioglycolic acid | 10 - < 15 % |
| | inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = 848 mg/kg; oral: LD50 = 73 mg/kg | | |

Further Information

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 = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Self-protection of the first aider

After inhalation

Provide fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Call a physician immediately.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

Safety Data Sheet

according to UK REACH Regulation

Thioglycolic acid solution 10 % pure

Revision date: 15.08.2023

Product code: 04136

Page 3 of 11

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water.

Do not allow a neutralisation agent to be drunk.

Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Irritant

corrosive

Dyspnoea

Cough

Risk of serious damage to eyes.

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Combustible liquids

Hazardous combustion products

In case of fire may be liberated: Sulphur oxides

In case of warming:

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.

Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

Safety Data Sheet

according to UK REACH Regulation

Thioglycolic acid solution 10 % pure

Revision date: 15.08.2023

Product code: 04136

Page 4 of 11

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

- Cover drains.
- Prevent spread over a wide area (e.g. by containment or oil barriers).
- Collect in closed and suitable containers for disposal.
- Take up carefully when dry. Take up dust-free and set down dust-free.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

- Provide adequate ventilation.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

- Safe handling: see section 7
- Personal protection equipment: see section 8
- Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

- Avoid exposure - obtain special instructions before use.
- Read label before use. Handle and open container with care.
- When using do not eat, drink, smoke, sniff. Keep container tightly closed.
- Use personal protection equipment. Use extractor hood (laboratory).
- Do not breathe vapour/aerosol.
- Provide adequate ventilation.

Advice on protection against fire and explosion

In case of warming: Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

Further information on handling

- Take off immediately all contaminated clothing and wash it before reuse.
- Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in a well-ventilated place. Keep container tightly closed.

Hints on joint storage

national regulations

Further information on storage conditions

- Keep cool. Protect from sunlight.
- storage temperature: +2°C - +8°C
- Protect against: Light

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

Safety Data Sheet

according to UK REACH Regulation

Thioglycolic acid solution 10 % pure

Revision date: 15.08.2023

Product code: 04136

Page 5 of 11

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|---------|---------------------|-----|-------------------|-----------|-----------|--------|
| 68-11-1 | Mercaptoacetic acid | 1 | 3.8 | | TWA (8 h) | WEL |

DNEL/DMEL values

| CAS No | Substance | Exposure route | Effect | Value |
|--------------------------|-------------------|----------------|----------|------------------------|
| 68-11-1 | thioglycolic acid | | | |
| Worker DNEL, long-term | | inhalation | systemic | 1,58 mg/m ³ |
| Worker DNEL, acute | | inhalation | systemic | 4,54 mg/m ³ |
| Worker DNEL, acute | | inhalation | local | 4,54 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 2,24 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 0,28 mg/m ³ |
| Consumer DNEL, long-term | | dermal | systemic | 0,8 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 0,08 mg/kg bw/day |

PNEC values

| CAS No | Substance | Value |
|--|-------------------|-------------|
| 68-11-1 | thioglycolic acid | |
| Freshwater | | 0,027 mg/l |
| Freshwater (intermittent releases) | | 0,27 mg/l |
| Marine water | | 0,003 mg/l |
| Freshwater sediment | | 0,1 mg/kg |
| Marine sediment | | 0,01 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | | 0,5 mg/l |
| Soil | | 0,004 mg/kg |

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Face protection umbrella

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following

Safety Data Sheet

according to UK REACH Regulation

Thioglycolic acid solution 10 % pure

Revision date: 15.08.2023

Product code: 04136

Page 6 of 11

specification (test according to EN 374):

By long-term hand contact

Trade name/designation: KCL 897 Butoject®

Recommended material: Butyl caoutchouc (butyl rubber) 0,3 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 720 Camapren®

Recommended material: CR (polychloroprene, chloroprene rubber) 0,65 mm

Wearing time with occasional contact (splashes): > 240 min

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).

Skin protection

Protective clothing, acid-resistant

Take off immediately all contaminated clothing and wash it before reuse.

Wash hands and face before breaks and after work and take a shower if necessary.

Draw up and observe skin protection programme.

Respiratory protection

Respiratory protection necessary at: dust formation

Filtering device (full mask or mouthpiece) with filter: B

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | |
|---|----------------|--------------------------|
| Physical state: | Liquid | |
| Colour: | colourless | |
| Odour: | characteristic | |
| Melting point/freezing point: | | No data available |
| Boiling point or initial boiling point and boiling range: | | No data available |
| Flammability: | | No data available |
| Lower explosion limits: | | No data available |
| Upper explosion limits: | | No data available |
| Flash point: | | No data available |
| Auto-ignition temperature: | | No data available |
| Decomposition temperature: | | No data available |
| pH-Value: | | 2,1 |
| Viscosity / kinematic: | | No data available |
| Water solubility: | | Soluble in: Water |
| Solubility in other solvents | | |
| No data available | | |
| Partition coefficient n-octanol/water: | | No data available |
| Vapour pressure: | | No data available |
| Vapour pressure: | | No data available |
| Density: | | 1,0274 g/cm ³ |

Safety Data Sheet

according to UK REACH Regulation

Thioglycolic acid solution 10 % pure

Revision date: 15.08.2023

Product code: 04136

Page 7 of 11

Bulk density: No data available
Relative vapour density: No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

In case of warming: Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

No data available

Solid content:

No data available

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

Viscosity / dynamic:

No data available

Flow time:

No data available

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

In case of warming: Vapours may form explosive mixtures with air.

10.2. Chemical stability

Protect against: Heat

Protect against: Light

storage temperature: +2°C - +8°C

10.3. Possibility of hazardous reactions

Oxidising agent

Alkali (lye)

10.4. Conditions to avoid

Heat

Light

10.5. Incompatible materials

Metal

10.6. Hazardous decomposition products

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Safety Data Sheet

according to UK REACH Regulation

Thioglycolic acid solution 10 % pure

Revision date: 15.08.2023

Product code: 04136

Page 8 of 11

Toxicokinetics, metabolism and distribution

Avoid exposure - obtain special instructions before use.

Acute toxicity

Harmful if swallowed.

Harmful if inhaled.

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

Symptoms may be delayed.

ATEmix calculated

ATE (oral) 730,0 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) 5,000 mg/l

| CAS No | Chemical name | | | | |
|---------|----------------------|----------------|---------|---------------------|--------------------|
| | Exposure route | Dose | Species | Source | Method |
| 68-11-1 | thioglycolic acid | | | | |
| | oral | LD50 73 mg/kg | Rat | Study report (1988) | OECD Guideline 401 |
| | dermal | LD50 848 mg/kg | Rabbit | Study report (1973) | OECD Guideline 402 |
| | inhalation vapour | ATE 3 mg/l | | | |
| | inhalation dust/mist | ATE 0,5 mg/l | | | |

Irritation and corrosivity

Causes severe skin burns and eye damage.

Causes serious eye damage.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

There are no data available on the mixture itself.

11.2. Information on other hazards

Other information

Irritant

corrosive

Dyspnoea

Cough

Risk of serious damage to eyes.

Further information

There are no data available on the mixture itself.

SECTION 12: Ecological information

Safety Data Sheet

according to UK REACH Regulation

Thioglycolic acid solution 10 % pure

Revision date: 15.08.2023

Product code: 04136

Page 9 of 11

12.1. Toxicity

Based on available data, the classification criteria are not met.

| CAS No | Chemical name | | Dose | [h] [d] | Species | Source | Method |
|---------|--------------------------|-----------------|------|-----------|---------------------------------|---------------------|--------------------|
| 68-11-1 | thioglycolic acid | | | | | | |
| | Acute fish toxicity | LC50 > 100 mg/l | | 96 h | Oncorhynchus mykiss | Study report (2008) | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 13 mg/l | | 72 h | Pseudokirchneriella subcapitata | Study report (2001) | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 38 mg/l | | 48 h | Daphnia magna | Study report (1997) | OECD Guideline 202 |
| | Acute bacteria toxicity | (EC50 530 mg/l) | | 3 h | Activated sludge | Study report (2004) | OECD Guideline 209 |

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|---------|-------------------|---------|
| 68-11-1 | thioglycolic acid | -2,99 |

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Do not allow to enter into surface water or drains.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.
Do not mix with other wastes.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

- 14.1. UN number or ID number:** UN 1940
- 14.2. UN proper shipping name:** THIOGLYCOLIC ACID
- 14.3. Transport hazard class(es):** 8

Safety Data Sheet

according to UK REACH Regulation

Thioglycolic acid solution 10 % pure

Revision date: 15.08.2023

Product code: 04136

Page 10 of 11

14.4. Packing group: II
 Hazard label: 8
 Classification code: C3
 Limited quantity: 1 L
 Excepted quantity: E2
 Transport category: 2
 Hazard No: 80
 Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1940
14.2. UN proper shipping name: THIOGLYCOLIC ACID
14.3. Transport hazard class(es): 8
14.4. Packing group: II
 Hazard label: 8
 Classification code: C3
 Limited quantity: 1 L
 Excepted quantity: E2

Marine transport (IMDG)

14.1. UN number or ID number: UN 1940
14.2. UN proper shipping name: THIOGLYCOLIC ACID
14.3. Transport hazard class(es): 8
14.4. Packing group: II
 Hazard label: 8
 Special Provisions: -
 Limited quantity: 1 L
 Excepted quantity: E2
 EmS: F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1940
14.2. UN proper shipping name: THIOGLYCOLIC ACID
14.3. Transport hazard class(es): 8
14.4. Packing group: II
 Hazard label: 8
 Limited quantity Passenger: 0.5 L
 Passenger LQ: Y840
 Excepted quantity: E2
 IATA-packing instructions - Passenger: 851
 IATA-max. quantity - Passenger: 1 L
 IATA-packing instructions - Cargo: 855
 IATA-max. quantity - Cargo: 30 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

Other applicable information

Transportzeiten max. 1 - 2 Wochen. Temperaturen über +10°C führen zu Veränderungen des Ladegutes (Bildung von 1,4-Dithioglycolid) / Transport times max. 1 - 2 weeks. Temperatures above +10°C cause alterations to the goods transported or stored (by formation of 1,4-dithioglycolides)

SECTION 15: Regulatory information

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

EU regulatory information

Safety Data Sheet

according to UK REACH Regulation

Thioglycolic acid solution 10 % pure

Revision date: 15.08.2023

Product code: 04136

Page 11 of 11

Restrictions on use (REACH, annex XVII):

Entry 3

Information according to 2012/18/EU (SEVESO III): H2 ACUTE TOXIC

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 1 - slightly hazardous to water

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 3,9,12.

Abbreviations and acronyms

Acute Tox: Acute toxicity

Skin Corr: Skin corrosion

Eye Dam: Eye damage

Classification for mixtures and used evaluation method according to GB CLP Regulation

| Classification | Classification procedure |
|---------------------|--------------------------|
| Acute Tox. 4; H302 | Calculation method |
| Acute Tox. 4; H332 | Calculation method |
| Skin Corr. 1B; H314 | Calculation method |
| Eye Dam. 1; H318 | Calculation method |

Relevant H and EUH statements (number and full text)

H301 Toxic if swallowed.
 H302 Harmful if swallowed.
 H302+H332 Harmful if swallowed or if inhaled.
 H311 Toxic in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H318 Causes serious eye damage.
 H331 Toxic if inhaled.
 H332 Harmful if inhaled.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)