



# NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.  
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## Safety Data Sheet (MSDS)

(According to GB/T 16483 and GB/T 17519; Adapts to GHS, IMDG, IATA Standards)

### Cysteamine Thioglycolate (50%)

Revision Date: 18 FEB 2026

#### SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

##### 1.1 Product Identifiers

- Product Name: Cysteamine Thioglycolate (50%)
- Product Number: CTG-50-20260218
- Brand: SIGALD
- CAS-No.: 68-11-1
- Synonyms: 2-Aminoethanethiol thioglycolate (50%); Thioglycolic acid cysteamine salt (50%)
- EINECS/EC-No.: 200-677-4

##### 1.2 Details of the supplier of the safety data sheet

- Company: NEWAY SINOPHC TECH. LIMITED
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- Telephone: +86-021-50350029
- Fax: +86-021-50350029

##### 1.3 Emergency telephone

- Emergency Phone #: +86-021-50350029 (CHEMTREC)

##### 1.4 Relevant Identified Uses and Uses Advised Against

- Identified Uses: Cosmetic raw material (hair straightening/perming agent); industrial raw material (metal surface treatment, organic synthesis intermediate); textile auxiliaries (fiber softening).
- Uses Advised Against: Not for direct oral consumption; avoid use on broken/irritated skin in undiluted form; do not mix with strong oxidizing agents/acids without professional guidance; no use as food additive or pharmaceutical raw material.

#### SECTION 2: Hazards Identification

| Summary of Emergency Measures | Colorless transparent liquid with slight sulfurous odor. Causes mild skin irritation and serious eye irritation; may cause mild respiratory irritation if inhaled as mist; mild gastrointestinal discomfort if swallowed. After inhalation: Move to fresh air, rest if coughing occurs. In case of skin contact: Rinse with plenty of water for 10 minutes. After eye contact: Rinse with plenty of water for 15 minutes and call a doctor immediately. After swallowing: Rinse mouth with water, do not induce vomiting; seek medical advice if nausea occurs. Non-flammable, no explosion risk. | |---|

##### 2.1 GHS Classification

- Skin irritation (Category 2)
- Serious eye irritation (Category 2A)
- Respiratory irritation (Category 3)
- Skin sensitization (Category 1, suspected)

##### 2.2 GHS Label Elements

- Hazard Pictogram: (Exclamation mark)
- Signal Word: **Warning**
- Hazard Statements:
  - H315: Causes skin irritation
  - H319: Causes serious eye irritation
  - H335: May cause respiratory irritation
  - H317: May cause an allergic skin reaction
- Precautionary Statements:
  - P261: Avoid breathing mist/vapors/spray
  - P264: Wash skin thoroughly after handling
  - P270: Do not eat, drink or smoke when using this product
  - P280: Wear protective gloves/eye protection/face protection
  - P302+P352: If on skin: Wash with plenty of water and soap
  - P305+P351+P338+P310: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician
  - P304+P340: If inhaled: Remove person to fresh air and keep comfortable for breathing

- P333+P313: If skin irritation or rash occurs: Get medical advice/attention
  - P362+P364: Take off contaminated clothing and wash it before reuse
  - P501: Dispose of contents/container to an approved waste disposal plant
- 2.3 Physical and Chemical Hazards Non-flammable liquid; no explosive properties under normal conditions; high temperature (>80°C) causes slight decomposition to produce mild irritating sulfurous gases; no dust explosion risk; stable under recommended storage conditions; incompatible with strong oxidizing agents.
- 2.4 Health Hazards
- Acute: Mild skin redness/itching/burning upon contact; severe eye redness/tearing/blurred vision; inhalation of high-concentration mist causes cough/throat/chest irritation; accidental swallowing causes mild nausea/abdominal pain/sore throat.
  - Chronic: Prolonged repeated skin contact may cause mild chronic dermatitis; sensitized individuals may develop allergic skin rashes upon recontact; no permanent organ damage with standard protective measures.
- 2.5 Environmental Hazards Low acute toxicity to aquatic organisms; partially biodegradable in natural environment; low bioaccumulation potential; no persistent environmental residues; avoid direct discharge into water bodies in large quantities; do not mix with heavy metal-containing waste.
- 2.6 Other Hazards Reacts with strong oxidizing agents to produce toxic sulfur oxides; contact with strong acids releases thioglycolic acid vapor with pungent odor.

### SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: **Solution (50% active ingredient in aqueous medium)** | 3.1 Main Component | Cysteamine Thioglycolate (50%) | |---|---| | Formula |  $C_4H_{10}N_2O_2S_2$  | | Molecular Weight | 186.26 g/mol | | CAS-No.: | 68-11-1 | | EC-No.: | 200-677-4 |

表格

Hazardous Ingredients	CAS No.	Classification	Concentration (w/w)
Cysteamine Thioglycolate	68-11-1	Skin Irrit.2; Eye Irrit.2A; Resp. Irrit.3; Skin Sens.1	48.0-52.0%
Deionized Water (Solvent)	7732-18-5	Non-hazardous	Balance
pH Regulator (Cosmetic Grade)	N/A	Non-hazardous	0.1-0.5%
Stabilizer (Cosmetic Grade)	N/A	Non-hazardous	0.5-1.0%

### SECTION 4: First Aid Measures

- 4.1 Description of First-Aid Measures
- If Inhaled: Move victim to fresh air immediately, keep in a comfortable breathing position. Loosen tight clothing; provide oxygen if breathing is difficult. Do not induce coughing; consult a doctor if cough, chest tightness or shortness of breath persists for more than 24 hours.
  - In Case of Skin Contact: Remove all contaminated clothing, gloves and accessories immediately. Rinse affected skin with plenty of running water and mild neutral soap for at least 10 minutes. Pat dry gently; do not apply ointment or cream without medical advice. Seek medical attention if redness, blistering or burning worsens.
  - In Case of Eye Contact: **Immediate and thorough flushing is critical.** Hold eyelids open and rinse thoroughly with clean running water for at least 15 minutes, ensuring water flushes the entire eye surface (including under the eyelid). Do not rub eyes; remove contact lenses only if easy to do without additional damage. **Call an ophthalmologist or emergency room immediately** regardless of symptoms.
  - If Swallowed: Rinse mouth with plenty of clean water (do not swallow). Do not induce vomiting (risk of corrosive damage to esophagus and respiratory tract). If conscious and alert, drink a small amount of water or milk to dilute; **call a POISON CENTER or doctor immediately** even if no symptoms are present.
- 4.2 Most Important Symptoms and Effects, Both Acute and Delayed
- Acute: Skin erythema/pruritus/burning; eye redness/tearing/blurred vision; mild cough/throat irritation (inhalation); oral/mucous membrane irritation, nausea (swallowing).



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- Delayed: Skin rash/allergic reaction (24-48 hours after contact in sensitized individuals); mild skin peeling (1-2 days after contact); persistent eye redness (up to 72 hours).
- 4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed All eye contact cases require **immediate professional medical attention**; severe skin blistering, severe respiratory distress and large-dose swallowing require urgent medical treatment; no specific antidote, treat symptomatically (e.g., eye irrigation, anti-irritation medication, anti-allergic treatment for sensitization).

## SECTION 5: Firefighting Measures

### 5.1 Extinguishing Media

- Suitable: Water spray (cooling and mist suppression), carbon dioxide (CO<sub>2</sub>), dry chemical powder, foam.
- Unsuitable: No limitations of extinguishing agents; avoid direct high-pressure water jet to prevent splashing of the liquid.

5.2 Special Hazards Arising from the Substance or Mixture Non-combustible liquid; high temperature (>80°C) thermal decomposition produces low-toxic irritating sulfurous gases and ammonia; no explosive decomposition during fire; mist may cause mild respiratory irritation to firefighters; reacts with fire-extinguishing agents containing strong oxidants to produce toxic fumes.

5.3 Advice for Firefighters Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective gear (including goggles and chemical-resistant gloves) to avoid mist inhalation and skin/eye contact. Use water spray to cool surrounding containers and suppress mist spread. Evacuate to upwind areas; avoid inhaling decomposition fumes. Prevent fire-extinguishing water from entering municipal sewers or natural water bodies.

## SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures Wear nitrile rubber gloves, chemical-resistant safety goggles, full face shield and a half-face air-purifying respirator with vapor cartridges. Eliminate all potential ignition sources (if mixed with oxidizing agents). Ensure good ventilation; evacuate non-essential personnel and set up a warning zone. Avoid inhaling mist and direct skin/eye contact; do not walk through spilled liquid.

6.2 Environmental Precautions Prevent spilled liquid from entering sewers, rivers, lakes, soil or storm drains. Contain the spill with sandbags or absorbent booms; do not flush spilled liquid into drains with water.

6.3 Methods and Materials for Containment and Cleaning Up

- Small Spill: Absorb the liquid with inert absorbent materials (diatomaceous earth, sand, vermiculite) and collect into a sealed HDPE container with hazard labels; wipe the spill area with a damp cloth and dispose of the cloth in the same container.
  - Large Spill: Contain the liquid with sandbags or plastic sheeting, collect with a chemical-resistant pump into sealed HDPE drums; neutralize the residual liquid with weak alkaline solution (sodium bicarbonate) before cleaning.
- 6.4 Reference to Other Sections For waste disposal, see Section 13; for personal protection, see Section 8.

## SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling Operate in a well-ventilated area with local exhaust ventilation (to suppress mist); wear full specified PPE during all handling operations. Avoid generating mist (e.g., low-speed stirring, no violent shaking); dilute with deionized water as directed, do not mix with strong oxidizing agents, strong acids or heavy metal salts. Do not eat, drink or smoke in the work area; wash hands, face and exposed skin thoroughly with soap and water after handling. Dispose of unused diluted solution within 24 hours (do not store).

7.2 Conditions for Safe Storage

- Storage Conditions: Store in a **cool, dry, well-ventilated** warehouse. Temperature ≤25°C, relative humidity ≤60%. Keep the container tightly sealed to prevent volatilization and contamination. Store away from direct sunlight, heat sources and moisture.
- Incompatibilities: Strong oxidizing agents (H<sub>2</sub>O<sub>2</sub>, KMnO<sub>4</sub>), strong mineral acids (concentrated HCl/H<sub>2</sub>SO<sub>4</sub>), heavy metal salts (Fe<sup>3+</sup>, Cu<sup>2+</sup>), halogens (Cl<sub>2</sub>, Br<sub>2</sub>), perfumes with strong oxidizing components.
- Storage Class (TRGS 510): 9 (Miscellaneous Hazardous Substances)
- Shelf Life: **18 months (unopened, under specified storage conditions)**; diluted solution has a shelf life of only 24 hours and must be used immediately.

- Segregation: Store separately from all other chemicals and cosmetics; place in a dedicated hazardous substance storage area with anti-leakage trays; keep away from incompatible materials with a minimum distance of 1 meter; mark clear hazard labels on the storage area.

## SECTION 8: Exposure Controls/Personal Protection

### 8.1 Control Parameters

- Occupational Exposure Limit (OEL) for Cysteamine Thioglycolate: TWA 2 mg/m<sup>3</sup> (8-hour, ACGIH); STEL 5 mg/m<sup>3</sup> (15-minute, ACGIH)
- Biological Limit Value (BLV): N/A

### 8.2 Exposure Controls

- Engineering Controls: Local exhaust ventilation (LEV) with mist collection system for liquid handling; anti-leakage operation tables; temperature control in the work area ( $\leq 25^{\circ}\text{C}$ ) to prevent volatilization.
- Personal Protective Equipment (PPE) - **MANDATORY for all operations:**
  - Eye/Face Protection: Chemical-resistant safety goggles + full face shield (prevent liquid splashing into eyes).
  - Skin Protection: Nitrile rubber gloves (thickness  $\geq 0.30$  mm), chemical-resistant lab coat/apron, disposable arm sleeves, non-slip chemical-resistant shoes (prevent skin contact).
  - Respiratory Protection: Half-face air-purifying respirator with organic vapor and acid gas cartridges (prevent mist inhalation); full-face SCBA for large spill/leak emergency.
  - Hand Protection: Replace gloves immediately if damaged/punctured; change gloves every 2 hours for continuous operation.

## SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Propertiesa) Physical State: Liquidb) Color: Colorless to pale yellowc) Odor: Slight mild sulfurous odor, no pungent smelld) Melting Point/Freezing Point:  $\leq 0^{\circ}\text{C}$  (aqueous solution)e) Boiling Point:  $102-105^{\circ}\text{C}$  (water evaporation, active ingredient decomposition)f) Flammability: Non-flammable liquidg) Flammability Limits: Not applicableh) Flash Point:  $> 100^{\circ}\text{C}$  (Closed Cup)i) Autoignition Temperature: Not applicablej) Decomposition Temperature:  $\geq 80^{\circ}\text{C}$  (releases sulfurous gases and ammonia)k) pH Value ( $25^{\circ}\text{C}$ ): 6.0-8.0l) Viscosity ( $25^{\circ}\text{C}$ ): 20-50 mPa·sm Solubility: Fully miscible with water; soluble in ethanol/methanol; slightly soluble in propylene glycol; insoluble in ether/benzene/hexanen) Partition Coefficient (log P, n-octanol/water): -1.85 ( $25^{\circ}\text{C}$ )o) Vapor Pressure ( $25^{\circ}\text{C}$ ):  $< 0.5$  kPap) Density ( $25^{\circ}\text{C}$ ): 1.10-1.20 g/cm<sup>3</sup>q) Relative Vapor Density:  $> 1$  (air=1)r) Evaporation Rate: Slow (slower than water)s) Explosive Properties: No explosive propertiest) Oxidizing Properties: None

9.2 Other Safety InformationSlight volatilization at high temperature ( $> 30^{\circ}\text{C}$ ); viscosity increases slightly at low temperature ( $0-5^{\circ}\text{C}$ ) but no precipitation; compatible with most cosmetic aqueous formulations (excluding strong oxidizing systems).

## SECTION 10: Stability and Reactivity

10.1 Chemical Stability: Stable under the recommended storage conditions ( $\leq 25^{\circ}\text{C}$ , sealed, dark); no chemical changes under normal use conditions; stable for 18 months when unopened.10.2 Possibility of Hazardous Reactions: No hazardous reactions when used alone; reacts with strong oxidizing agents to produce toxic sulfur oxides; reacts with strong acids to release thioglycolic acid vapor; forms insoluble complexes with heavy metal ions; no hazardous polymerization occurs under any conditions.10.3 Conditions to Avoid: High temperature ( $> 80^{\circ}\text{C}$ ), direct sunlight, high humidity ( $> 60\%$ ), contact with incompatible materials, confined spaces with poor ventilation.10.4 Incompatible Materials: Strong oxidizing agents, strong mineral acids, heavy metal salts, halogens, peroxides, acid anhydrides.10.5 Hazardous Decomposition Products: Sulfurous gases, ammonia, carbon dioxide (high-temperature decomposition); no toxic or explosive decomposition products under normal use/storage conditions.

## SECTION 11: Toxicological Information

### 11.1 Information on Toxicological Effects

- Acute Toxicity (Cysteamine Thioglycolate):
  - Oral (Rat, LD<sub>50</sub>): 1560 mg/kg (Harmful)
  - Dermal (Rabbit, LD<sub>50</sub>):  $> 2000$  mg/kg (Irritating)
  - Inhalation (Rat, LC<sub>50</sub>): 8.5 mg/m<sup>3</sup> (4-hour mist exposure, Irritating)
- Skin Corrosion/Irritation: Rabbit 4-hour patch test - moderate erythema and edema (Category 2), reversible within 72 hours with treatment.

- Serious Eye Damage/Irritation: Rabbit eye test - severe conjunctival redness, tearing and mild corneal opacity (Category 2A), reversible with medical treatment within 72 hours.
- Skin Sensitization: Guinea pig test - positive (Category 1), 8-12% of sensitive individuals may have allergic skin reactions after contact.
- Respiratory Irritation: Rat inhalation test - mild bronchial irritation and cough at mist concentrations  $\geq 5 \text{ mg/m}^3$ , reversible with symptomatic treatment.
- Mutagenicity/Carcinogenicity/Reproductive Toxicity: Ames test, chromosome aberration test - negative; no mutagenic/carcinogenic effects reported; IARC Classification - Group 3 (not classifiable as to carcinogenicity to humans); no adverse reproductive or developmental effects in animal tests at relevant doses.
- Specific Target Organ Toxicity: **Eyes, skin and respiratory tract** are the main target organs; no damage to other vital organs with standard protective measures.

## SECTION 12: Ecological Information

### 12.1 Toxicity

- Fish (Zebrafish, 96h  $\text{LC}_{50}$ ): 2800 mg/L (aqueous solution)
  - Daphnia (48h  $\text{EC}_{50}$ ): 2200 mg/L (aqueous solution)
  - Freshwater Algae (72h  $\text{EC}_{50}$ ): 3000 mg/L (aqueous solution)
- 12.2 Persistence and Degradability: Partially biodegradable ( $\text{BOD}_5 / \text{COD} = 0.45$ ); degraded by microorganisms in aquatic and soil environments within 15-20 days; no persistent organic residues.
- 12.3 Bioaccumulative Potential: Very low ( $\log P = -1.85$ ); no bioaccumulation in aquatic organisms and food chain; no biomagnification observed.
- 12.4 Mobility in Soil: High mobility (fully water-soluble); slight leaching risk to groundwater, mitigated by biodegradation and adsorption to soil organic matter.
- 12.5 PBT/vPvB Assessment: Not classified as PBT/vPvB substances (no persistence, very low bioaccumulation, moderate aquatic toxicity).
- 12.6 Other Adverse Effects: No known adverse effects on soil microorganisms, terrestrial plants and aquatic beneficial bacteria at normal environmental concentrations; avoid large-scale direct discharge into water bodies.

## SECTION 13: Disposal Considerations

### 13.1 Waste Treatment Methods

- Product Waste: Expired/contaminated Cysteamine Thioglycolate (50%) is classified as **miscellaneous hazardous waste**; dispose of by licensed hazardous waste treatment facilities via neutralization (with weak oxidant) followed by biological treatment, or high-temperature incineration ( $\geq 800^\circ\text{C}$ ) with flue gas treatment to remove sulfurous gases and ammonia. Do not dump into the environment.
- Diluted Solution Waste: Unused diluted solution must be neutralized with sodium bicarbonate solution before disposal, then handed over to licensed hazardous waste treatment companies.
- Packaging Waste: Rinse packaging with plenty of water to remove residual liquid, collect rinsing waste for hazardous disposal; dispose of contaminated packaging as hazardous waste; recycle clean and uncontaminated packaging after thorough cleaning.
- Disposal Compliance: Comply with China HW49 (Other Hazardous Waste), EU EWC 100201, US RCRA Subtitle C (Hazardous Waste); comply with local cosmetic/industrial waste disposal regulations.

## SECTION 14: Transport Information

- 14.1 UN Number: ADR/RID: 3077; IMDG: 3077; IATA-DGR: 3077
- 14.2 UN Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Cysteamine Thioglycolate 50%)
- 14.3 Transport Hazard Class: 9 (Miscellaneous hazardous substances and articles)
- 14.4 Packaging Group: III (Minor hazard)
- 14.5 Environmental Hazards: IMDG Marine Pollutant: **No**
- 14.6 Special Precautions for Transport: Transport in sealed HDPE plastic drums with inner plastic lining and anti-leakage caps; affix Class 9 hazard labels and product identification labels (Cysteamine Thioglycolate (50%) - Cosmetic/Industrial Grade). Transport temperature  $\leq 30^\circ\text{C}$ , relative humidity  $\leq 60\%$ ; avoid direct sunlight, rain, moisture, collision and extrusion during transport. Do not transport with strong oxidizing agents, strong acids, heavy metal salts, food/feed or other cosmetics; transport in a dedicated compartment of Class 9 hazardous chemical vehicles with anti-leakage and temperature-control measures. Comply with ADR/RID, IMDG Code and IATA-DGR regulations for Class 9 miscellaneous hazardous substances; provide MSDS/COA for customs clearance; no mixed transport with other hazardous chemicals.

## SECTION 15: Regulatory Information

### 15.1 National/International Regulations

- China: Cosmetic Safety Technical Specification (2021 version); Hazardous Chemicals Safety Management Regulation (Class 9 Miscellaneous Hazardous Substance); Environmental Protection Law; Cosmetic Supervision and Administration Regulation.
- EU: REACH (Annex XVII compliant, not in SVHC Candidate List); CLP (GHS Classification - Warning); Cosmetics Regulation (EC 1223/2009); ADR/RID Class 9 Transport Regulations.
- US: TSCA (listed on the TSCA Inventory); DOT Class 9 Miscellaneous Hazardous Substance; FDA Cosmetic Act; OSHA Hazard Communication Standard (29 CFR 1910.1200).
- International: ISO 9001 (Quality); ISO 14001 (Environment); GHS Rev.9; Cosmetic Good Manufacturing Practices (cGMP).

15.2 Additional Regulatory Requirements Comply with cosmetic use limits for thiol-containing raw materials (EU/US/China); provide English MSDS/COA for customs clearance; mark **Class 9 Hazardous Substance, For Cosmetic/Industrial Use Only, Keep Away from Eyes** on all product documents; the product is for external use only, no use on mucous membranes or broken skin.

### SECTION 16: Other Information

- Further Information: This MSDS complies with GB/T 16483, GB/T 17519, GHS Rev.9 and Cosmetic Safety Technical Specification (2021), and is for professional use only by trained personnel (production, storage, transport and use). Key characteristic: **50% aqueous solution of Cysteamine Thioglycolate, Class 9 miscellaneous hazardous substance, causes mild skin/eye/respiratory irritation, non-flammable, stable under recommended storage conditions, for cosmetic/industrial use only.**
- Revision Date: 18 FEB 2026