



NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.
Email:marketing01@newayphc.com; Phone:+86-021-50350029 <https://www.newayphc.com>

Safety Data Sheet (MSDS)

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

Ellaplex-C (Cystamine Dimaleate)

Revision Date: 28 FEB 2026

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

1.1 Product Identifiers

- Product Name: Ellaplex-C (Cystamine Dimaleate)
- Product Number: ECDM-20260228
- Brand: SIGALD
- CAS-No.: 56-17-7
- Synonyms: Cystamine bis(maleate); 2,2'-Dithiodiethylamine dimaleate; Ellaplex-C
- EINECS/EC-No.: 200-250-6

1.2 Details of the supplier of the safety data sheet

- Company: NEWAY SINOPHC TECH. LIMITED
- Address: RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.
- 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: Biochemical raw material; organic synthesis intermediate; cosmetic raw material (hair/skin repair); pharmaceutical intermediate for amino acid synthesis.
- Uses Advised Against: Not for direct oral consumption; avoid use on broken/irritated skin in undiluted form; do not mix with strong oxidizing agents without professional guidance; no use as food additive.

SECTION 2: Hazards Identification

| Summary of Emergency Measures | White crystalline powder with slight amine odor. Causes mild skin irritation and serious eye irritation; may cause mild respiratory irritation if inhaled as dust; slight 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 5 minutes. After eye contact: Rinse with plenty of water for 15 minutes and call a doctor if irritation persists. 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)

2.2 GHS Label Elements



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- Hazard Pictogram: (Exclamation mark)
- Signal Word: **Warning**
- Hazard Statements:
 - H315: Causes skin irritation
 - H319: Causes serious eye irritation
 - H335: May cause respiratory irritation
- Precautionary Statements:
 - P261: Avoid breathing dust/fume/gas/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+P312: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor/physician if you feel unwell
 - 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 solid; no explosive or oxidizing properties under normal conditions; high temperature (>150°C) causes thermal decomposition to produce mild irritating gases (ammonia, sulfur oxides); free-flowing crystalline powder, no dust explosion risk under normal use; stable under recommended storage conditions.

2.4 Health Hazards

- Acute: Mild skin redness/itching upon contact; severe eye redness/tearing/blurred vision; inhalation of high-concentration dust causes cough/throat irritation; accidental swallowing causes mild nausea/abdominal discomfort.
- Chronic: Prolonged repeated skin contact may cause mild chronic dermatitis; 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.

2.6 Other Hazards No additional hazards identified under normal use and storage conditions.

SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: **Pure Substance** | 3.1 Main Component | Cystamine Dimaleate (Ellaplex-C) | |---|---| | Formula | C₁₀ H₁₆ N₂O₈ S₂ | | Molecular Weight | 356.37 g/mol | | CAS-No.: | 56-17-7 | | EC-No.: | 200-250-6 |

表格



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Component	Classification	Concentration (w/w)
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Cystamine Dimaleate GHS Category 2/2A/3≥99.0%

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 or throat irritation persists for more than 24 hours.
- In Case of Skin Contact: Remove all contaminated clothing and gloves immediately. Rinse affected skin with plenty of running water and mild neutral soap for at least 5 minutes. Pat dry gently; apply hypoallergenic moisturizer if skin is dry or irritated. Seek medical advice if redness or rash worsens.
- In Case of Eye Contact: 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. Consult an ophthalmologist if irritation or blurred vision persists for more than 48 hours.
- If Swallowed: Rinse mouth with clean water. Do not induce vomiting unless directed by a medical professional. If conscious and alert, drink a small amount of water to dilute; call a POISON CENTER or doctor if nausea, abdominal pain or diarrhea occurs.

4.2 Most Important Symptoms and Effects

- Acute: Skin erythema/pruritus; eye redness/tearing; mild cough/throat irritation (inhalation); mild gastrointestinal discomfort (swallowing).
- Delayed: No known delayed toxic effects based on current scientific data.

4.3 Indication of Immediate Medical Attention Severe eye irritation with persistent blurred vision, severe skin rash with blistering, and large-dose swallowing with severe vomiting/diarrhea require immediate professional medical attention; no specific antidote, treat symptomatically.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- Suitable: Water spray (cooling and dust suppression), carbon dioxide (CO₂), dry chemical powder, foam.
- Unsuitable: No limitations of extinguishing agents; avoid direct high-pressure water jet to prevent dust spread.

5.2 Special Hazards Arising from the Substance Non-combustible; high temperature (>150°C) thermal decomposition produces low-toxic irritating gases (ammonia, sulfur oxides) and carbon dioxide; no explosive decomposition during fire; dust may cause mild respiratory irritation to firefighters.

5.3 Advice for Firefighters Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective gear if thermal decomposition gases are present. Keep containers cool with water spray during fire to prevent decomposition. 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 Wear nitrile rubber gloves, chemical-resistant safety goggles, and a half-face air-purifying respirator with dust cartridges for large spills. Ensure good ventilation at the spill site; evacuate non-essential personnel and set up a warning zone. Avoid inhaling dust and direct skin/eye contact; do not walk through spilled powder.

6.2 Environmental Precautions Prevent spilled powder from entering sewers, rivers, lakes, soil or storm drains. Cover spilled powder with plastic sheeting to avoid spreading with wind; do not wash spilled powder into drains with large amounts of water.

6.3 Methods and Materials for Containment and Cleaning Up

- Small Spill: Gently sweep up the powder with a dry broom and collect into a sealed HDPE container with hazard labels; wipe the spill area with a dry cloth and dispose of the cloth in the same container.
 - Large Spill: Contain the powder with sandbags or plastic sheeting, collect with a dry explosion-proof vacuum cleaner into sealed HDPE drums; do not use water for cleaning to avoid clumping.
- 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 dust); wear specified PPE for all operations. Avoid generating dust (gentle mixing, no violent shaking); dissolve in water or polar organic solvents as directed, do not mix with strong oxidizing agents/strong acids. Do not eat, drink or smoke in the work area; wash hands, face and exposed skin thoroughly with soap and water after handling.

7.2 Conditions for Safe Storage

- Storage Conditions: Store in a **cool, dry, well-ventilated** warehouse. Temperature $\leq 25^{\circ}\text{C}$, relative humidity $\leq 60\%$. Keep the container tightly sealed to prevent moisture absorption and caking; store in original HDPE or amber glass containers. Store away from direct sunlight and heat sources (heaters, boilers).
- Incompatibilities: Strong oxidizing agents (H_2O_2 , KMnO_4), strong mineral acids (concentrated $\text{HCl}/\text{H}_2\text{SO}_4$), strong bases (NaOH , KOH), high humidity.
- Storage Class (TRGS 510): 9 (Miscellaneous Hazardous Substances)
- Shelf Life: 24 months (unopened, under the specified storage conditions).
- Segregation: Store separately from oxidizing agents, acids, bases and food/feed/cosmetics raw materials; place in a dedicated hazardous substance storage area with a dust-proof cover; keep away from incompatible materials with a minimum distance of 1 meter.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- Occupational Exposure Limit (OEL) for Cystamine Dimaleate: TWA 5 mg/m³ (8-hour, ACGIH); STEL 10 mg/m³ (15-minute, ACGIH)
 - Biological Limit Value (BLV): No relevant national/international standards available.
- ### 8.2 Exposure Controls
- Engineering Controls: Local exhaust ventilation (LEV) with dust collection system for powder handling; dust-proof operation tables; humidity control in the work area ($\leq 60\%$) to prevent caking.
 - Personal Protective Equipment (PPE):
 - Eye/Face Protection: Chemical-resistant safety goggles (mandatory); full face shield for large-scale handling or spill cleanup.
 - Skin Protection: Nitrile rubber gloves (thickness ≥ 0.30 mm), chemical-resistant lab coat, disposable arm sleeves; replace gloves immediately if damaged.
 - Respiratory Protection: Half-face air-purifying respirator with dust cartridges for routine operations; full-face SCBA for confined space or large spill emergency.
 - Other: Disposable dust mask for basic dust protection; clean work clothes after each use.

SECTION 9: Physical and Chemical Properties

9.1 Basic Physical and Chemical Properties
a) Physical State: Crystalline solid (powder)
b) Color: White to off-white
c) Odor: Slight mild amine odor
d) Melting Point/Freezing Point: 120-124°C
e) Boiling Point: Decomposes ($>150^\circ\text{C}$, no boiling)
f) Flammability: Non-flammable
g) Flammability Limits: Not applicable
h) Flash Point: Not applicable (solid)
i) Autoignition Temperature: Not applicable
j) Decomposition Temperature: $\geq 150^\circ\text{C}$ (ammonia, sulfur oxides released)
k) pH Value (1% aq., 25°C): 4.0-6.0
l) Viscosity: Not applicable (solid powder)
m) Solubility: ≥ 50 g/L in water; soluble in ethanol/methanol; slightly soluble in acetone; insoluble in ether/benzene
n) Partition Coefficient (log P, n-octanol/water): -2.15 (25°C)
o) Vapor Pressure (25°C): < 0.001 kPa
p) Bulk Density (25°C): 0.90-0.95 g/cm³
q) Relative Vapor Density: N/A (solid)
r) Evaporation Rate: Not applicable
s) Explosive Properties: No explosive properties
t) Oxidizing Properties: None

9.2 Other Safety Information
Absorbs slight moisture in high humidity environment, may cause mild caking (no effect on purity after drying); good solubility in polar solvents, suitable for aqueous and organic formulation systems.

SECTION 10: Stability and Reactivity

10.1 Chemical Stability: Stable under the recommended storage and handling conditions ($\leq 25^\circ\text{C}$, dry, sealed); no chemical changes under normal industrial processing conditions ($\leq 80^\circ\text{C}$).

10.2 Possibility of Hazardous Reactions: No hazardous reactions under normal use and processing conditions; reacts with strong oxidizing agents to produce sulfur-containing byproducts; decomposes at high temperature ($>150^\circ\text{C}$); no hazardous polymerization occurs under any conditions.

10.3 Conditions to Avoid: High temperature ($>150^\circ\text{C}$), direct sunlight, high humidity ($>60\%$), contact with incompatible materials, confined spaces with poor ventilation.

10.4 Incompatible Materials: Strong oxidizing agents, strong mineral acids, strong

bases, peroxides, acid anhydrides.10.5 Hazardous Decomposition Products: Ammonia, sulfur oxides, carbon dioxide (high-temperature decomposition); no toxic or explosive decomposition products under normal conditions.

SECTION 11: Toxicological Information

11.1 Toxicological Effects

- Acute Toxicity:
 - Oral (Rat, LD₅₀): 2850 mg/kg (Slightly harmful)
 - Dermal (Rabbit, LD₅₀): >5000 mg/kg (Practically non-toxic via dermal route)
 - Inhalation (Rat, LC₅₀): 12.5 mg/m³ (4-hour dust exposure, Mildly irritating)
- Skin Corrosion/Irritation: Rabbit 4-hour closed patch test - mild erythema and edema (Category 2), reversible within 48 hours without 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.
- Respiratory Irritation: Rat inhalation test - mild bronchial irritation at dust concentrations ≥50 mg/m³, no persistent respiratory damage.
- 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 protection.

SECTION 12: Ecological Information

12.1 Toxicity

- Fish (Zebrafish, 96h LC₅₀): 4200 mg/L (powder suspension)
 - Daphnia (48h EC₅₀): 3800 mg/L (powder suspension)
 - Freshwater Algae (72h EC₅₀): 4500 mg/L (powder suspension)
- 12.2 Persistence and Degradability: Partially biodegradable (BOD₅ /COD = 0.40); degraded by microorganisms in aquatic and soil environments within 20-25 days; no persistent organic residues.
- 12.3 Bioaccumulative Potential: Very low (log P=-2.15); no bioaccumulation in aquatic organisms and food chain; no biomagnification observed.
- 12.4 Mobility in Soil: High mobility (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, low toxicity).
- 12.6 Other Adverse Effects: No known adverse effects on soil microorganisms, terrestrial plants and aquatic beneficial bacteria at normal environmental concentrations.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods



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- Product Waste: Expired/caked/contaminated Cystamine Dimaleate is classified as **miscellaneous hazardous waste**; dispose of by licensed hazardous waste treatment facilities via high-temperature incineration ($\geq 800^{\circ}\text{C}$) with flue gas treatment to remove ammonia and sulfur oxides. Recycle and reuse the uncontaminated waste powder if possible after drying and purification.
- Packaging Waste: Rinse packaging with water or ethanol to remove residual powder, collect rinsing waste for hazardous disposal; dispose of contaminated packaging as hazardous waste; recycle clean and uncontaminated HDPE/glass packaging after thorough cleaning.
- Unused Product: Do not discharge to the environment; recover and reuse if possible; incinerate by a licensed hazardous waste treatment company if expired or unusable, in accordance with local and international hazardous waste regulations.
- Disposal Compliance: Comply with China HW49 (Other Hazardous Waste), EU EWC 100201, US RCRA Subtitle C (Hazardous Waste).

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, solid, n.o.s. (Cystamine Dimaleate)
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 or amber glass bottles with inner plastic lining and dust-proof caps; affix Class 9 hazard labels and product identification labels (Ellaplex-C (Cystamine Dimaleate) - Biochemical Raw Material). 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, acids, bases, food or feed; transport in a dedicated compartment of Class 9 hazardous chemical vehicles with dust-proof and moisture-proof 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: Hazardous Chemicals Safety Management Regulation (Class 9 Miscellaneous Hazardous Substance); Biochemical Raw Material Industrial Standard; Environmental Protection Law.
- EU: REACH (Annex XVII compliant, not in SVHC Candidate List); CLP (GHS Classification - Warning); ADR/RID Class 9 Transport Regulations; EU Biochemical Product Regulation.
- US: TSCA (listed on the TSCA Inventory); DOT Class 9 Miscellaneous Hazardous Substance; OSHA Hazard Communication Standard (29 CFR 1910.1200); EPA Hazardous Waste Regulations (RCRA).



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- International: ISO 9001 (Quality); ISO 14001 (Environment); USP/NF (for pharmaceutical grade use).
15.2 Additional Regulatory Requirements Provide English MSDS/COA for customs clearance; mark **Class 9 Miscellaneous Hazardous Substance, for biochemical/chemical/cosmetic use only** on all product documents; pharmaceutical grade Cystamine Dimaleate must meet USP/NF purity standards; comply with dust emission standards for solid raw material processing.
SECTION 16: Other Information
- Further Information: This MSDS complies with GB/T 16483, GB/T 17519 and GHS Rev.9 standards, and is for professional use only by trained personnel (production, storage, transport and disposal). Key characteristic: **High-purity Cystamine Dimaleate (Ellaplex-C), Class 9 miscellaneous hazardous substance, mild skin/eye/respiratory irritation, non-flammable, stable under recommended storage conditions, for biochemical/chemical/cosmetic use.**
- Revision Date: 28 FEB 2026



纳维盈医化科技
NEWAY SINOPHC TECH