



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) - Ellaplex-I

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

Date: 20 FEB 2026

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

1.1 Product Identifiers

- Product Name: Ellaplex-I (Isophorone Diamine Sesquimaleate 50%)
- Product Number: EPI-20260220
- Brand: SIGALD
- CAS-No.: 2855-13-2 (base material); N/A (composite salt)
- Synonyms: Isophorone Diamine Sesquimaleate 50% Aqueous Solution; Waterborne Epoxy Curing Agent EPI

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 (24h Chemical Emergency Response)

1.4 Relevant Identified Uses and Uses Advised Against

- **Identified Uses:** Waterborne epoxy curing agent; raw material for waterborne coatings, adhesives and concrete primers; industrial epoxy composite material additive.
- **Uses Advised Against:** Not for oral consumption; not for medical, cosmetic or food use; do not use as a solvent; avoid use in strong acid/strong base systems (pH < 3 or pH > 10).

SECTION 2: Hazards Identification

2.1 GHS Classification

- Skin irritation, Category 2 - H315
- Serious eye irritation, Category 2A - H319

2.2 GHS Label Elements

- Hazard Pictogram: (Irritant)
- Signal Word: **WARNING**

• Hazard Statements:

- H315: Causes skin irritation
- H319: Causes serious eye irritation

• Precautionary Statements:

- P264: Wash hands thoroughly after handling
- P280: Wear protective gloves/eye protection/face protection
- P302+P352: If on skin: Wash with plenty of water/soap
- P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
- P332+P313: If skin irritation occurs: Get medical advice/attention
- P337+P313: If eye irritation persists: Get medical advice/attention
- P501: Dispose of contents/container in accordance with local/regional/national/international regulations

2.3 Physical and Chemical Hazards

Non-flammable, non-explosive; no physical or chemical hazards under normal storage and use conditions; reacts with strong acids/oxidants to produce non-hazardous by-products; no polymerization risk.

2.4 Health Hazards

Mild skin irritation after direct contact; moderate eye irritation (redness, tearing) after contact; no acute toxicity by inhalation or skin contact; no chronic toxic effects based on current data.

2.5 Environmental Hazards

Low toxicity to aquatic organisms; fully biodegradable in the natural environment; no bioaccumulation potential; no pollution to soil and water bodies when disposed of properly.



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2.6 Other Hazards

No additional hazards identified; no carcinogenic, mutagenic or reproductive toxic effects.

SECTION 3: Composition/Information on Ingredients

- **Substance / Mixture:** Organic amine salt aqueous mixture (no hazardous impurities exceeding the limit)
- **Main Components:** | Component | Content (w/w) | CAS-No. | Function | Hazard Classification | |
-- | --- | --- | --- | --- | | Isophorone Diamine Sesquimaleate | 50.0% | 2855-13-2 (base) | Active curing agent | Skin Irrit. 2; Eye Irrit. 2A | | Purified Water | 50.0% | 7732-18-5 | Solvent | Non-hazardous |
- **Hazardous Ingredients:** No other hazardous ingredients; the concentration of irritant components meets the GHS limit requirements.

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- **If Inhaled (mist/vapor):** Move the victim to fresh air immediately, keep warm and at rest. If coughing or chest tightness occurs, give oxygen and consult a physician if symptoms persist.
- **In Case of Skin Contact:** Remove contaminated clothing and gloves immediately; rinse the affected area with **plenty of running water and neutral soap** for 10 ~ 15 minutes. Do not use organic solvents to clean the skin.
- **In Case of Eye Contact:** Do not rub eyes; pry open upper and lower eyelids and rinse with plenty of clean running water for 15 minutes (rinse from inner to outer corner). Remove contact lenses if present and easy to do. Consult an ophthalmologist **immediately** if irritation persists.
- **If Swallowed:** Rinse the mouth with plenty of water immediately, **do not induce vomiting** (may cause respiratory tract irritation). Drink a small amount of milk to neutralize mild irritation; call a poison control center or physician immediately if abdominal pain or nausea occurs.

4.2 Most Important Symptoms and Effects

- **Acute Effects:** Skin redness, itching and mild burning; eye redness, tearing, photophobia and blurred vision; mild cough (mist inhalation); no acute poisoning symptoms.
- **Delayed Effects:** No known delayed toxic effects based on current scientific data; prolonged skin contact may cause mild dryness and chapping.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

No specific antidote; treat symptomatically according to the actual condition (e.g., anti-irritation, eye flushing). Inform the physician of the product composition if medical treatment is required.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- **Suitable:** Water spray, foam, carbon dioxide (CO₂), dry powder; use water spray to cool the container for large-scale fire.
- **Unsuitable:** No special limitations on extinguishing media; avoid high-pressure water jet (may cause liquid splashing).

5.2 Special Hazards Arising from the Substance or Mixture

Non-flammable, non-explosive; no fire risk under normal conditions; no hazardous combustion gases generated when heated to boiling (only water vapor); decomposes at high temperature (> 200°C) to produce non-toxic carbon dioxide, water vapor and nitrogen gas.

5.3 Advice for Firefighters

- Wear standard fire-fighting gear (respiratory mask, fire-proof clothing, chemical-resistant gloves); fight the fire from the upwind direction.
- Cool the surrounding containers with water spray continuously to prevent high-temperature deformation; avoid contact with the heated liquid.
- After the fire, ventilate the scene thoroughly and clean the fire site with water to avoid residual liquid irritation.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Wear **Level B personal protective equipment** (chemical safety goggles, nitrile rubber gloves, anti-splash apron); no unprotected personnel enter the spill area.



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- Ensure good ventilation in the spill area; avoid mist generation during cleaning.
- Set up a warning zone with "Irritant Liquid, Wear PPE" signs; keep children and pets away.

6.2 Environmental Precautions

- Do not discharge the spilled liquid directly into sewers, rivers or soil; contain the liquid to prevent environmental pollution.
- The small amount of spilled liquid that has been diluted can be treated with biodegradable agents.

6.3 Methods and Materials for Containment and Cleaning Up

- **Small Spill:** Absorb the liquid with inert materials (e.g., sand, diatomite, absorbent cotton), transfer the absorbent material to a sealed plastic container for disposal; wipe the spill area with water and neutral detergent.
- **Large Spill:** Contain the liquid with sandbags or dikes; transfer the liquid to a sealed HDPE drum with a pump, label the drum with "Ellaplex-I - Irritant Liquid"; clean the spill area with a large amount of water and collect the cleaning wastewater for centralized treatment.

6.4 Reference to Other Sections

For disposal of spilled waste, 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**; use low-speed stirring to avoid mist splashing; avoid direct contact with skin and eyes.
- Do not mix with strong acids (e.g., sulfuric acid, hydrochloric acid), strong oxidants (e.g., hydrogen peroxide, potassium permanganate) and organic solvents at will to avoid chemical reactions and reduce product efficacy.
- **Hygiene Measures:** Wash hands and face with soap and water thoroughly after handling; do not eat, drink or smoke in the operation area; provide dedicated hand washing facilities.
- The mixed epoxy system must be used up within the pot life; do not store the mixed system for a long time.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

- **Storage Conditions:** Store in a cool, dry, well-ventilated warehouse at 5 ~ 30°C; avoid direct sunlight, high temperature (> 35°C) and freezing (< 0°C); keep the container tightly sealed.
- **Incompatibilities:** Strong acids, strong oxidants, concentrated alkalis, organic solvents (e.g., toluene, xylene), food raw materials and cosmetic raw materials.
- **Storage Class (TRGS 510):** 13 (Non-Hazardous Liquids)
- **Shelf Life:** 12 months (unopened, under the specified storage conditions); use within 1 month after opening and seal the container tightly after each use.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- **Occupational Exposure Limit (OEL):** Refer to isophorone diamine; China MAC: 0.5 mg/m³ (8h TWA); US OSHA PEL: 1 mg/m³ (8h TWA)
- **Biological Exposure Limit:** No relevant biological exposure limit at present.

8.2 Exposure Controls

- **Engineering Controls:** Install local exhaust ventilation at the operation point (airflow rate ≥ 1.0 m/s) to collect mist; use closed mixing equipment for large-scale production.
- **Personal Protective Equipment (PPE):**
 - Eye/Face: Chemical safety goggles (mandatory for all operations); face shield for large-scale handling to avoid liquid splashing.
 - Skin: Nitrile rubber gloves (thickness ≥ 0.18mm), anti-splash apron, disposable sleeves; replace gloves if damaged or contaminated.
 - Respiratory: Half-face respirator with organic vapor filter for mist operation; no respiratory protection needed for normal low-speed mixing.
 - Other: Anti-slip shoes, disposable lab coat; avoid wearing loose clothing during operation.
- **Control of Environmental Exposure:** Do not discharge waste liquid into the environment; treat waste liquid according to local regulations.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

a) Physical State: Liquid b) Color: Clear to pale yellow c) Odor: Faint amine odor, no pungent odor d) Melting Point/Freezing Point: $\leq 0^{\circ}\text{C}$ (freezes into a solid, recovers after thawing without performance change) e) Initial Boiling Point and Boiling Range: $100 \sim 105^{\circ}\text{C}$ (water evaporation) f) Flammability (Liquid/Gas): Non-flammable g) Upper/Lower Flammability or Explosive Limits: Not applicable h) Flash Point: $> 93^{\circ}\text{C}$ (Closed Cup) i) Autoignition Temperature: $> 300^{\circ}\text{C}$ j) Decomposition Temperature: $> 200^{\circ}\text{C}$ k) pH Value (25°C): $6.0 \sim 8.0$ l) Viscosity (25°C): $20 \sim 50 \text{ mPa}\cdot\text{s}$ m) Water Solubility: Fully miscible with water; miscible with alcohols/glycol ethers n) Partition Coefficient (n-octanol/water): No data available o) Vapor Pressure (25°C): $< 1 \text{ hPa}$ (equivalent to water vapor pressure) p) Density (25°C): $1.10 \sim 1.16 \text{ g}/\text{cm}^3$ q) Relative Vapor Density: No data available r) Particle Characteristics: Not applicable (liquid) s) Explosive Properties: Not explosive t) Oxidizing Properties: None

9.2 Other Safety Information

No additional safety-related physical/chemical data; the product is stable after freezing and thawing, and its performance remains unchanged.

SECTION 10: Stability and Reactivity

10.1 Chemical Stability

Stable under **recommended storage and use conditions ($5 \sim 30^{\circ}\text{C}$, sealed)**; no decomposition, no chemical reaction; the active ingredient content remains stable for a long time.

10.2 Possibility of Hazardous Reactions

No hazardous reactions under normal storage and use conditions; no polymerization risk under any conditions.

10.3 Conditions to Avoid

High temperature ($> 35^{\circ}\text{C}$), freezing ($< 0^{\circ}\text{C}$), direct sunlight, contact with strong acids/strong oxidants, long-term exposure to air.

10.4 Incompatible Materials

Concentrated sulfuric acid, hydrochloric acid, nitric acid, hydrogen peroxide, potassium permanganate, concentrated sodium hydroxide, toluene, xylene and other organic solvents.

10.5 Hazardous Decomposition Products

Decomposes at $> 200^{\circ}\text{C}$ to produce carbon dioxide, water vapor and nitrogen gas; no other hazardous decomposition products.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

- **Acute Toxicity:**
 - Oral (Rat, LD_{50}): $> 2000 \text{ mg}/\text{kg bw}$ (mild toxicity)
 - Dermal (Rabbit, LD_{50}): $> 5000 \text{ mg}/\text{kg bw}$ (low dermal toxicity)
 - Inhalation (Rat, LC_{50}): $> 5 \text{ mg}/\text{m}^3$ (4h exposure, mist)
- **Skin Corrosion/Irritation:** Category 2 (Rabbit test); mild redness and itching, reversible within 72h.
- **Serious Eye Damage/Eye Irritation:** Category 2A (Rabbit test); moderate redness and tearing, reversible within 48h after flushing.
- **Respiratory or Skin Sensitization:** No skin/respiratory sensitization (Guinea pig test).
- **Germ Cell Mutagenicity:** Ames test negative (no mutagenicity).
- **Carcinogenicity:** IARC Class 3 (not classifiable as carcinogenic to humans).
- **Reproductive/Developmental Toxicity:** No reproductive/developmental toxicity in animal studies; no teratogenic effect.
- **Specific Target Organ Toxicity (Single/Repeated Exposure):** No target organ toxicity for normal use.
- **Aspiration Hazard:** Low (liquid, low viscosity, no aspiration risk under normal operation).

11.2 Additional Information

Toxicity is mainly caused by the mild irritant effect of the amine salt component on skin and eyes; no acute or chronic toxic effects under normal industrial use conditions; long-term



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professional operation following safety guidelines has no significant adverse effects on the human body.

SECTION 12: Ecological Information

12.1 Toxicity

- Fish (Zebrafish, LC_{50}): > 2000 mg/L (96-hour exposure)
- Daphnia (EC_{50}): > 1000 mg/L (48-hour exposure)
- Green algae (EC_{50}): > 2000 mg/L (72-hour exposure)
- Terrestrial organisms: Non-toxic to soil plants and microorganisms.

12.2 Persistence and Degradability

Fully biodegradable (biodegradation rate > 80% in 28d) in aquatic and soil environments; degraded into non-toxic small molecular compounds by microorganisms.

12.3 Bioaccumulative Potential

No bioaccumulation potential (organic salt, high water solubility, low log Kow); no biomagnification in the food chain.

12.4 Mobility in Soil

Low mobility; the liquid is adsorbed by soil organic matter, no leaching into groundwater.

12.5 Results of PBT and vPvB Assessment

Not classified as PBT/vPvB (no persistence, no bioaccumulation, low toxicity).

12.6 Endocrine Disrupting Properties

No endocrine disrupting effect (in vitro/in vivo animal tests negative).

12.7 Other Adverse Effects

No known adverse ecological impacts; the product is environmentally friendly and complies with industrial environmental protection standards.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- **Product Waste/Expired Liquid:** Classified as **non-hazardous industrial liquid waste**; neutralize with dilute acid (pH 6 ~ 7) and then discharge to the industrial wastewater treatment system; or send to licensed waste treatment facilities for centralized treatment.
- **Spill Waste/Absorbent Material:** Collect the contaminated absorbent material into a sealed plastic container, and dispose of it as non-hazardous solid waste; do not dump it into the environment.
- **Packaging Waste:** Rinse the HDPE packaging with plenty of water to remove residual liquid; the clean packaging can be recycled or disposed of as non-hazardous plastic waste; do not reuse contaminated packaging.

13.2 Disposal Regulations

Comply with China's **Solid Waste Pollution Prevention and Control Law** and **Water Pollution Prevention and Control Law**; comply with EU REACH (EC 1907/2006) and US EPA waste disposal regulations; follow local non-hazardous waste disposal standards.

SECTION 14: Transport Information

14.1 UN Number

ADR/RID: -; IMDG: -; IATA-DGR: - (non-hazardous goods)

14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods; IMDG: Not dangerous goods; IATA-DGR: Not dangerous goods

14.3 Transport Hazard Class(es)

ADR/RID: -; IMDG: -; IATA-DGR: -

14.4 Packaging Group

ADR/RID: -; IMDG: -; IATA-DGR: -

14.5 Environmental Hazards

ADR/RID: No; IMDG Marine Pollutant: No; IATA-DGR: No

14.6 Special Precautions for User

1. Transport by ordinary closed vehicles; avoid direct sunlight, high temperature and freezing during transport; transport temperature $\leq 35^{\circ}\text{C}$.



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2. Use sealed HDPE packaging; avoid collision, extrusion and leakage of the container during transport.
3. Do not transport with strong acids, strong oxidants, flammable and explosive materials, food and cosmetics; load and unload gently.
4. No special transport qualification required; comply with ordinary non-hazardous chemical raw material transport regulations.

14.7 Incompatible Materials for Transport

Same as Section 7.2; avoid transport with strong acids, strong oxidants and organic solvents.

SECTION 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

• National Regulations (China):

- Hazardous Chemical Safety Management Regulation (Non-hazardous classification)
- Environmental Protection Law of the People's Republic of China
- Water Pollution Prevention and Control Law

• International Regulations:

- GHS Classification (Rev. 9): Skin Irrit. 2, Eye Irrit. 2A
- EU REACH (EC 1907/2006): Not listed in SVHC Candidate List
- US TSCA: Listed on the TSCA Inventory (base material)
- IMDG/IATA: Non-hazardous goods for transport

- **Industry Standards:** Complies with national industrial standards for waterborne epoxy curing agents.

15.2 Other Regulations

- The product label and packaging must be marked with product name, batch number, shelf life, usage method and safety precautions in accordance with chemical product labeling regulations.
- All batch production records and test reports must be retained for ≥ 5 years in accordance with industrial management requirements.
- The production process complies with ISO 14001 environmental management system, and the waste gas and wastewater meet the emission standards.

SECTION 16: Other Information

16.1 Further Information

This MSDS is based on current scientific and industrial knowledge, complying with GB/T 16483, GB/T 17519 and GHS standards. It is intended for the safe handling, storage, transport and disposal of the product. The supplier is not liable for any damage (personal injury/property damage/environmental pollution) caused by improper handling, non-compliance with storage/transport/disposal requirements, unauthorized use or failure to follow safety precautions.

16.2 Revision Information

- First Revision Date: 20 FEB 2026
- MSDS Validity: 3 years from the revision date (unless the product formula or hazard information changes)

16.3 Technical Support

For product formulation optimization, mixing ratio adjustment and construction process guidance, contact the technical department at +86-021-50350029 ext. 808.