



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

Product Name: Thymosin **Product Number:** TM-20260228 **Brand:** SIGALD **Revision Date:** 28 FEB 2026

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

1.1 Product Identifiers

- Synonyms: Thymic Polypeptides; Thymic Extract; Thymosin Mixture

1.2 Supplier Details

- 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:** +86-021-50350029 (CHEMTREC)

1.4 Identified Uses & Uses Advised Against

- Identified Uses: Pharmaceutical raw material (immunomodulator); biomedical research reagent; cell culture supplement; immunology research.
- Uses Advised Against: Not for direct injection (unformulated); no unapproved food/cosmetic/industrial use; avoid use in thymosin-allergic individuals.

SECTION 2: Hazards Identification

2.1 **GHS Classification:** Eye irritation, Category 2 (H319); Skin sensitization, Category 1 (H317)

GHS Label Elements

- Hazard Pictogram: (Warning)
- Signal Word: **Warning**
- Hazard Statements: H317 - May cause an allergic skin reaction; H319 - Causes serious eye irritation
- Precautionary Statements: P261, P280, P305+P351+P338, P333+P313

2.3 **Physical and Chemical Hazards:** No physical/chemical hazards; non-combustible; slightly hygroscopic

2.4 **Health Hazards:** May cause allergic skin reactions in sensitive individuals; causes serious eye irritation; low systemic toxicity; no acute toxic effects via oral/dermal exposure.

2.5 **Environmental Hazards:** Non-toxic to aquatic organisms; fully biodegradable via enzymatic hydrolysis; no environmental pollution risk.

2.6 **Other Hazards:** Slight hygroscopy (degrades on moisture absorption); no additional hazards identified.

SECTION 3: Composition/Information on Ingredients

- **Substance / Mixture:** Natural polypeptide mixture (thymic extract)
- **Active Components:** Thymosin α 1, Thymosin β 4, Thymopentin | Total Concentration: \geq 85.0% | Classification: Eye irritation Cat.2; Skin sensitization Cat.1

SECTION 4: First Aid Measures

4.1 First-Aid Measures

- Inhaled: Move to fresh air; rest in comfortable breathing position; consult a doctor if cough/irritation persists (monitor for allergic reaction).
 - Skin Contact: Rinse skin with running water and mild soap for 10 mins; remove contaminated clothing; consult a doctor if redness/itching/blistering occurs.
 - Eye Contact: Rinse eyes thoroughly with sterile water for 15-20 mins (hold eyelids open); remove contact lenses; **immediately consult an ophthalmologist.**
 - Swallowed: Rinse mouth with water; do not induce vomiting; consult a doctor if gastrointestinal discomfort occurs (no severe toxic effects expected).
- 4.2 **Symptoms:** Eye burning/tearing/blurred vision; skin redness/urticaria (allergic reaction); mild cough (inhalation); no systemic toxic symptoms.
- 4.3 **Medical Attention:** Symptomatic treatment; antihistamines for allergic reactions; ophthalmic care for eye irritation; no specific antidote.
- 4.4 **Notes to Physician:** Inform of product composition (thymosin polypeptide mixture) and exposure route/amount; assess for polypeptide allergy.

SECTION 5: Firefighting Measures

5.1 **Extinguishing Media:** Water spray, foam, CO₂, dry powder (all suitable)

5.2 **Special Hazards:** Non-combustible; decomposes at >180°C into non-toxic amino acids; no toxic combustion/decomposition fumes generated.

5.3 **Firefighter Advice:** Wear standard fire-fighting gear; cool containers with water spray to prevent moisture absorption/peptide degradation; no toxic fume inhalation risk.

SECTION 6: Accidental Release Measures

- 6.1 **Personal Precautions:** Wear N95 dust mask, chemical safety goggles, nitrile gloves and clean lab coat; operate in well-ventilated area.
- 6.2 **Environmental Precautions:** No special measures needed; spilled powder is biodegradable by soil/water microorganisms; no environmental pollution.
- 6.3 **Clean Up Methods**
- Small Spill: Sweep up with dry clean spatula; transfer to sealed moisture-proof container for reprocessing/disposal.
 - Large Spill: Contain with anhydrous inert material (anhydrous silica gel); collect into sealed container; rinse the area with a small amount of water (collect rinse for biological treatment).
- 6.4 **Reference:** See Section 13 for disposal details.

SECTION 7: Handling and Storage

7.1 Safe Handling

- Operate in well-ventilated area; avoid dust generation/inhalation and skin/eye contact.
 - Do not eat/drink/smoke in the work area; wash hands thoroughly with water after handling; identify polypeptide-allergic personnel before operation.
- ### 7.2 Safe Storage
- Storage Conditions: **2-8°C (refrigerated)**, dry, dark, sealed; store in original packaging; avoid temperature fluctuation.
 - Incompatibilities: Water/moisture, strong acids/bases, proteolytic enzymes (trypsin/pepsin), heavy metal ions, oxidizing agents.



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- Storage Class (TRGS 510): 10 (Toxic Solids, Non-combustible)
- Shelf Life: 24 months (unopened, 2-8°C storage); 1 month (4°C refrigerated, after opening)
- Storage Segregation: Store separately from food/feed, pharmaceuticals (other biologics), strong acids/bases; store in dedicated polypeptide storage area.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- Occupational Exposure Limit (OEL): No official national limit; recommended TWA: 0.1 mg/m³ (inhalable dust)

8.2 Exposure Controls

- Engineering Controls: Local exhaust ventilation (LEV) for dust-generating operations; general room ventilation.
- Personal Protective Equipment (PPE)
 - Eye/Face: Chemical safety goggles (mandatory)
 - Skin: Powder-free nitrile rubber gloves (≥0.18mm); disposable clean lab coat
 - Respiratory: N95/P95 dust mask for routine handling; powered air-purifying respirator (PAPR) for large-scale powder handling
 - Hand: Powder-free nitrile gloves (no latex)
- Hygiene: Change contaminated lab coat immediately; wash hands with water after handling; no direct skin contact with dry powder.

SECTION 9: Physical and Chemical Properties

- Physical State: Lyophilized powder
- Color: White to off-white
- Odor: Odorless
- Melting Point: Decomposes (>180°C)
- Boiling Point: N/A (decomposes before boiling)
- Flammability: Non-combustible
- Flash Point: N/A
- Autoignition Temperature: >300°C
- Solubility: Soluble in water, dilute phosphate buffer; insoluble in organic solvents (ethanol/ether/hexane)
- Density (25°C): 1.24 g/cm³
- Particle Size: 200-300 mesh (pharmaceutical grade)
- Explosive Properties: Non-explosive
- Oxidizing Properties: None
- pH Value: 6.0-8.0 (1mg/mL aqueous solution, 25°C)
- Hygroscopy: Slight (absorbs moisture at RH >60%)
- Vapor Pressure (25°C): < 0.1 hPa

SECTION 10: Stability and Reactivity

10.1 **Chemical Stability:** Stable at 2-8°C sealed storage; stable for 1 month at 4°C (after opening); degrades at high temperature (>40°C) or high humidity. 10.2 **Hazardous Reactions:**

No hazardous reactions; hydrolyzes in strong acids/bases to amino acids; degrades via enzymatic breakdown. 10.3 **Conditions to Avoid:** High temperature (>40°C), direct sunlight, moisture (RH >60%), strong acids/bases, proteolytic enzymes, heavy metal ions. 10.4

Incompatible Materials: Concentrated HCl/H₂SO₄, NaOH/KOH, trypsin/pepsin, copper/zinc/iron ions, hydrogen peroxide. 10.5 **Decomposition Products:** Non-toxic amino acids; no hazardous decomposition products.

SECTION 11: Toxicological Information

11.1 Toxicological Effects

- Acute Toxicity: Oral (Rat, LD₅₀) >5000 mg/kg; Dermal (Rabbit, LD₅₀) >5000 mg/kg; Inhalation (Rat, LC₅₀) >1 mg/m³ (4h)
- Skin Irritation/Corrosion: No irritation (Rabbit, 24h exposure); may cause allergic sensitization in susceptible individuals.
- Eye Irritation/Damage: Moderate to severe irritation (Rabbit, 24h exposure); reversible with treatment.
- Skin Sensitization: Positive (human/animal tests); polypeptide allergy cross-reactivity risk.
- Mutagenicity: No mutagenic effects (Ames test, chromosome aberration test).
- Carcinogenicity: Not classified as carcinogenic by IARC/EPA/NTP.
- Reproductive Toxicity: No adverse reproductive effects at therapeutic dosages; avoid high-dose exposure during pregnancy/lactation.
- Target Organ Toxicity: Eyes, skin (direct contact); no chronic target organ toxicity.

SECTION 12: Ecological Information

12.1 **Toxicity:** Fish (Zebrafish, LC₅₀) >1000 mg/L (96h); Daphnia (EC₅₀) >1000 mg/L (48h); Algae (EC₅₀) >1000 mg/L (72h); non-toxic to aquatic life. 12.2 **Persistence and Degradability:** Fully biodegradable (100% hydrolysis) by aquatic/soil microorganisms; degradation half-life = 1-2 days (ambient temperature). 12.3 **Bioaccumulative Potential:** None (hydrolyzes to amino acids; no bioaccumulation in food chains). 12.4 **Mobility in Soil:** High mobility (soluble in soil water); hydrolyzed by soil microorganisms; no leaching risk (non-toxic). 12.5 **PBT/vPvB:** Not classified as PBT/vPvB; non-persistent, non-bioaccumulative, non-toxic. 12.6 **Other Effects:** No adverse ecological impacts; hydrolyzed amino acids act as soil nutrients.

SECTION 13: Disposal Considerations

13.1 **Waste Treatment:** Pharmaceutical grade waste: incinerate at >800°C via licensed hazardous waste facilities; Research grade waste: dilute 1:100 with water and discharge to biological wastewater treatment system (biodegradable); Spilled powder: collect and incinerate/reprocess. 13.2 **Packaging Waste:** Rinse with water/anhydrous ethanol; dry thoroughly; dispose as non-hazardous plastic/glass waste; recycle dedicated polypeptide packaging.



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SECTION 14: Transport Information

14.1 **UN Number:** ADR/RID/IMDG/IATA: 2811 14.2 **UN Proper Shipping Name:** Toxic solids, organic, n.o.s. (Thymosin) 14.3 **Transport Hazard Class:** 6.1 (Toxic substances) 14.4 **Packaging Group:** III 14.5 **Environmental Hazards:** IMDG: Marine pollutant (No) 14.6 **Special Precautions:** **Refrigerated transport (2-8°C);** sealed packaging with moisture-proof liner; avoid temperature fluctuation, collision, moisture; mark "**Keep Refrigerated**"; no transport with food/feed/strong acids/bases. 14.7 **Incompatible Materials:** Avoid transport with water-containing products, proteolytic enzymes, strong acids/bases, heavy metal salts, food/feed.

SECTION 15: Regulatory Information

15.1 National & International Regulations

- China: CP compliant; Hazardous Chemical Safety Management Regulation (Class 6.1); Pharmaceutical Raw Material Management Regulation (GMP grade); Biological Product Regulation.
- International: GHS (Rev.9) Cat.2 Eye irritation; REACH (EU) Registered; TSCA (US) Listed; USP/EP compliant. 15.2 **Other:** Comply with local pharmaceutical import/export, refrigerated transport and hazardous chemical regulations; mark for polypeptide allergy risk.

SECTION 16: Other Information

- This MSDS is based on current scientific research and complies with GB/T 16483, GB/T 17519 and GHS international standards.
- Supplier is not liable for damage caused by improper use, non-refrigerated storage/transport or non-compliance with safety precautions.
- Pharmaceutical grade Thymosin meets global pharmacopoeia standards; for formulated pharmaceutical/biological products only (GMP conditions).
- For further technical/safety information, contact the supplier's polypeptide R&D/EHS department (refrigerated storage guidance provided).