



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: Bacitracin **CAS-No.:** 1405-87-0 **Product Number:** BCT-20260226 **Brand:**

SIGALD **Revision Date:** 26 FEB 2026

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

1.1 Product Identifiers

- Synonyms: Bacitracin A; Bacitracin complex; Polypeptide antibiotic B

1.2 Supplier Details

- Company: NEWAY SINOPHC TECH. LIMITED
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- 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 (topical antibiotic); veterinary medicine; industrial antimicrobial (food/feed additive); laboratory reagent.
- Uses Advised Against: Not for parenteral injection (systemic use); no unapproved oral human consumption; avoid use in bacitracin-allergic individuals.

SECTION 2: Hazards Identification

2.1 **GHS Classification:** Acute oral toxicity, Category 4 (H302); Skin irritation, Category 2 (H315); Eye irritation, Category 2 (H319); Skin sensitization, Category 1 (H317)

- Hazard Pictogram: (Warning)
- Signal Word: **Warning**
- Hazard Statements: H302 - Harmful if swallowed; H315 - Causes skin irritation; H317 - May cause an allergic skin reaction; H319 - Causes serious eye irritation
- Precautionary Statements: P261, P270, P280, P302+P352, P305+P351+P338, P333+P313

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

2.4 **Health Hazards:** Harmful if swallowed; causes skin/eye irritation; may trigger allergic skin reactions in sensitive individuals; gastrointestinal upset on ingestion; no systemic toxicity via topical use.

2.5 **Environmental Hazards:** Moderately toxic to aquatic organisms; biodegradable via microbial breakdown; low environmental persistence.

2.6 **Other Hazards:** No additional hazards identified.

SECTION 3: Composition/Information on Ingredients

- **Substance / Mixture:** Pure polypeptide antibiotic
- **Active Component:** Bacitracin (CAS:1405-87-0) | Concentration: ≥95.0% | Classification: Acute oral toxicity Cat.4; Skin irritation Cat.2; Eye irritation Cat.2; Skin sensitization Cat.1

SECTION 4: First Aid Measures

4.1 First-Aid Measures



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- Inhaled: Move to fresh air; rest in comfortable breathing position; consult a doctor if cough/irritation persists.
 - Skin Contact: Rinse skin with running water and mild soap for 10 mins; remove contaminated clothing; apply emollient if irritation occurs; consult a doctor for allergic reactions.
 - Eye Contact: Rinse eyes thoroughly with sterile water for 15-20 mins (hold eyelids open); remove contact lenses; **immediately consult an ophthalmologist** if irritation persists.
 - Swallowed: Rinse mouth with water; **do not induce vomiting**; call a poison control center/consult a doctor at once; monitor gastrointestinal function.
- 4.2 Symptoms:** Nausea/vomiting/abdominal pain (ingestion); skin redness/itching/rash; eye burning/tearing/blurred vision; allergic urticaria (severe sensitization).
- 4.3 Medical Attention:** Symptomatic treatment; antihistamines for allergic reactions; topical corticosteroids for skin irritation; no specific antidote.
- 4.4 Notes to Physician:** Inform of product composition (bacitracin) and exposure route/amount; assess for antibiotic 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 >200°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 thermal 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: Contain spilled powder to prevent runoff into water bodies; avoid contamination of soil/aquatic environments.

6.3 Clean Up Methods

- Small Spill: Sweep up with dry clean spatula; transfer to sealed container for disposal/reprocessing.
 - Large Spill: Contain with inert material (sand/vermiculite); collect into sealed container; rinse area with 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 antibiotic-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: Strong acids/bases, oxidizing agents, heavy metal ions, proteolytic enzymes.
 - Storage Class (TRGS 510): 10 (Toxic Solids, Non-combustible)

- Shelf Life: 24 months (unopened, 2-8°C storage); 3 months (room temperature, after opening)
- Storage Segregation: Store separately from food/feed, pharmaceuticals (other antibiotics), strong acids/bases; store in dedicated antibiotic storage area.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- Occupational Exposure Limit (OEL): No official national limit; recommended TWA: 0.5 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; 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: Crystalline powder
- Color: White to pale yellow
- Odor: Slightly characteristic odor
- Melting Point: Decomposes (>200°C)
- Boiling Point: N/A (decomposes before boiling)
- Flammability: Non-combustible
- Flash Point: N/A
- Autoignition Temperature: >300°C
- Solubility: Slightly soluble in water, methanol; insoluble in ethanol, ether, chloroform
- Density (25°C): 1.32 g/cm³
- Particle Size: 100-200 mesh (pharmaceutical grade)
- Explosive Properties: Non-explosive
- Oxidizing Properties: None
- pH Value: 5.5-7.5 (1% aqueous suspension, 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 3 months at room temperature (≤25°C); degrades at high temperature (>40°C).

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, oxidizing agents.10.4 **Incompatible Materials:** Concentrated HCl/H₂SO₄, NaOH/KOH, hydrogen peroxide, copper/zinc ions, trypsin/pepsin.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) = 800 mg/kg; Dermal (Rabbit, LD₅₀) >2000 mg/kg; Inhalation (Rat, LC₅₀) >1 mg/m³ (4h)
- Skin Irritation/Corrosion: Mild irritation (Rabbit, 24h exposure); reversible.
- Eye Irritation/Damage: Moderate irritation (Rabbit, 24h exposure); reversible with treatment.
- Skin Sensitization: Positive (human/animal tests); antibiotic 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 effects at therapeutic dosages; avoid high-dose exposure during pregnancy/lactation.
- Target Organ Toxicity: Gastrointestinal tract (ingestion); skin/eyes (direct contact); no chronic target organ toxicity.

SECTION 12: Ecological Information

12.1 **Toxicity:** Fish (Zebrafish, LC₅₀) = 25 mg/L (96h); Daphnia (EC₅₀) = 15 mg/L (48h); Algae (EC₅₀) = 30 mg/L (72h); moderately toxic to aquatic life.12.2 **Persistence and Degradability:**

Biodegradable (60-80% degradation in 7 days) by soil/aquatic microorganisms; low environmental persistence.12.3 **Bioaccumulative Potential:** Low (log K_{oc} = 1.2); no significant bioaccumulation in food chains.12.4 **Mobility in Soil:** Low mobility (slightly water-soluble); binds to soil organic matter; no leaching risk.12.5 **PBT/vPvB:** Not classified as PBT/vPvB; low persistence, low bioaccumulation.12.6 **Other Effects:** May inhibit soil microbial growth at high concentrations; no long-term ecological impacts at recommended use levels.

SECTION 13: Disposal Considerations

13.1 **Waste Treatment:** Pharmaceutical grade waste: incinerate at >800°C via licensed hazardous waste facilities; Industrial grade waste: dilute 1:100 with water and treat via biological wastewater system; Spilled powder: collect and incinerate.13.2 **Packaging Waste:**

Rinse with water; decontaminate with dilute disinfectant; dispose as non-hazardous plastic/glass waste.

SECTION 14: Transport Information

14.1 **UN Number:** ADR/RID/IMDG/IATA: 281114.2 **UN Proper Shipping Name:** Toxic solids, organic,

n.o.s. (Bacitracin)14.3 **Transport Hazard Class:** 6.1 (Toxic substances)14.4 **Packaging Group:**

III14.5 **Environmental Hazards:** IMDG: Marine pollutant (No)14.6 **Special Precautions:**

Refrigerated transport (2-8°C); sealed packaging; avoid temperature fluctuation, collision, moisture; mark "Keep Refrigerated"; no transport with food/feed.14.7 **Incompatible Materials:**

Avoid transport with strong acids/bases, oxidizing agents, food/feed, pharmaceuticals.

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); Veterinary Drug Regulation.
 - International: GHS (Rev.9) Cat.4 Acute oral toxicity; REACH (EU) Registered; TSCA (US) Listed; USP/EP/FDA compliant; FDA-approved for topical pharmaceutical use.
- 15.2 **Other:** Comply with local antibiotic import/export, refrigerated transport and hazardous chemical regulations; mark for antibiotic 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 Bacitracin meets global pharmacopoeia standards; for topical pharmaceutical/veterinary use only (GMP conditions).
- For further technical/safety information, contact the supplier's antibiotic R&D/EHS department (refrigerated storage guidance provided).