



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: Primaquine Phosphate **CAS-No.:** 150-99-2 **Product Number:** PPP-20260222 **Brand:** SIGALD **Revision Date:** 22 FEB 2026

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

1.1 Product Identifiers

- Synonyms: 8-[(4-Aminomethyl-1-piperidiny)methyl]-6-methoxyquinoline diphosphate; Primaquine diphosphate

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 (anti-malarial, radical cure of malaria); anti-plasmodial drug synthesis; biomedical research reagent; veterinary anti-parasitic formulation.
- Uses Advised Against: Not for direct oral/parenteral use (unformulated); no unapproved industrial/cosmetic/food use; avoid use in G6PD-deficient individuals (risk of hemolysis).

SECTION 2: Hazards Identification

2.1 **GHS Classification:** Acute oral toxicity, Category 3 (H301); Eye irritation, Category 2 (H319); Skin irritation, Category 2 (H315); Specific target organ toxicity (single exposure), Category 3 (Hematopoietic system) (H341)

2.2 GHS Label Elements

- Hazard Pictogram: (Warning)
- Signal Word: **Warning**
- Hazard Statements: H301 - Toxic if swallowed; H315 - Causes skin irritation; H319 - Causes serious eye irritation; H341 - Suspected of causing genetic defects
- Precautionary Statements: P264, P270, P280, P301+P310, P305+P351+P338, P332+P313

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

2.4 **Health Hazards:** Toxic if swallowed; causes skin/serious eye irritation; suspected genotoxicity; may cause hemolysis in G6PD-deficient individuals; gastrointestinal discomfort, headache and fatigue upon accidental ingestion.

2.5 **Environmental Hazards:** Moderately toxic to aquatic organisms; biodegradable in natural environment; avoid direct release to water bodies.

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

SECTION 3: Composition/Information on Ingredients

- **Substance / Mixture:** Pure substance
- **Active Component:** Primaquine Phosphate (CAS:150-99-2) | Concentration: ≥98.0% | Classification: Acute oral toxicity Cat.3; Skin/Eye irritation Cat.2

SECTION 4: First Aid Measures

4.1 First-Aid Measures



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- Inhaled: Move to fresh air; rest in a position comfortable for breathing; consult a doctor immediately if coughing/chest pain occurs.
 - Skin Contact: Rinse skin with running water and mild soap for 10-15 mins; remove contaminated clothing; consult a doctor if redness/blistering persists.
 - Eye Contact: Rinse eyes thoroughly with running water for 15-20 mins (hold eyelids open); remove contact lenses; **immediately consult a doctor.**
 - Swallowed: Rinse mouth with water; **do not induce vomiting**; immediately call a poison control center or consult a doctor (note G6PD deficiency risk).
- 4.2 Symptoms:**
Nausea/vomiting/abdominal pain (ingestion); skin redness/itching; eye burning/tearing; hematuria/jaundice (in G6PD-deficient individuals); headache/fatigue.
- 4.3 Medical Attention:**
Symptomatic treatment; no specific antidote; gastric lavage under medical supervision if large amount is ingested; monitor hematological function (especially red blood cell count).
- 4.4 Notes to Physician:** Inform of product composition and exposure/ingestion amount; check G6PD level if hemolysis is suspected; provide supportive care for hematopoietic system damage.

SECTION 5: Firefighting Measures

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

5.2 Special Hazards: Non-combustible; decomposes at >205°C to release toxic nitrogen oxides, hydrogen chloride and phosphoric acid fumes.

5.3 Firefighter Advice: Wear self-contained breathing apparatus (SCBA) and full fire-fighting gear; avoid inhalation of decomposition fumes; keep containers cool with water spray to prevent decomposition.

SECTION 6: Accidental Release Measures

- 6.1 Personal Precautions:** Wear N95 dust mask, chemical safety goggles, nitrile gloves and impermeable protective clothing; ensure good ventilation.
- 6.2 Environmental Precautions:** Prevent spillage from entering drains, sewers, rivers or other water bodies; contain spilled material to avoid soil contamination (cover with inert material).
- 6.3 Clean Up Methods**
- Small Spill: Sweep up with a dry clean spatula; transfer to a sealed plastic container for disposal.
 - Large Spill: Contain with inert material (sand/vermiculite); collect into sealed drum; rinse the area with a small amount of water (collect rinse water for disposal).
- 6.4 Reference:** See Section 13 for disposal.

SECTION 7: Handling and Storage

7.1 Safe Handling

- Operate in a well-ventilated fume hood/area; avoid dust generation/inhalation (fine powder may be airborne).
 - Do not eat/drink/smoke in the work area; wash hands thoroughly with soap and water after handling (no hand cream before handling).
 - Avoid contact with eyes, skin and mucous membranes; wear full PPE during handling; record exposure for personnel.
- 7.2 Safe Storage**



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- Storage Conditions: Cool, dry, dark warehouse; $\leq 20^{\circ}\text{C}$, relative humidity $\leq 50\%$; airtight sealed amber glass container (light-sensitive).
- Incompatibilities: Strong bases, strong oxidizing agents, alkaline carbonates, heavy metal salts, reducing agents.
- Storage Class (TRGS 510): 10 (Toxic Solids, Non-combustible)
- Shelf Life: 24 months (unopened, under specified conditions)
- Storage Segregation: Store separately from food, feed, cosmetic raw materials and all pharmaceutical APIs; mark clearly with G6PD hazard warning.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- Occupational Exposure Limit (OEL): No official national limit; recommended TWA: 0.2 mg/m^3 (inhalable dust)

8.2 Exposure Controls

- Engineering Controls: Local exhaust ventilation (LEV) for dust-generating operations; high-efficiency dust collection system; negative pressure fume hood.
- Personal Protective Equipment (PPE)
 - Eye/Face: Chemical safety goggles + face shield (mandatory)
 - Skin: Nitrile rubber gloves ($\geq 0.2\text{mm}$); impermeable protective clothing + apron
 - Respiratory: P95/P100 dust mask for routine handling; powered air-purifying respirator (PAPR) for large-scale operations
 - Hand: Nitrile gloves (no latex/neoprene)
- Hygiene: Change contaminated clothing immediately; shower with soap after handling; conduct regular hematological check-ups for operators.

SECTION 9: Physical and Chemical Properties

- Physical State: Crystalline powder
- Color: Orange-red to red
- Odor: Slightly bitter, almost odorless
- Melting Point: $200\text{-}205^{\circ}\text{C}$ (decomposition)
- Boiling Point: N/A (decomposes before boiling)
- Flammability: Non-combustible
- Flash Point: N/A
- Autoignition Temperature: $>350^{\circ}\text{C}$
- Solubility: Freely soluble in water; slightly soluble in ethanol; insoluble in chloroform/ether/benzene
- Density (25°C): 1.42 g/cm^3
- Particle Size: 100-200 mesh (pharmaceutical grade, customizable)
- Explosive Properties: Non-explosive
- Oxidizing Properties: Weak oxidizing property
- pH Value: 4.0-5.0 (1% aqueous solution, 25°C)



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- Viscosity: N/A (solid)
- Light Sensitivity: Sensitive to direct light (degrades upon long-term exposure)

SECTION 10: Stability and Reactivity

10.1 **Chemical Stability:** Stable under recommended storage conditions ($\leq 20^{\circ}\text{C}$, dry, sealed, dark).

10.2 **Hazardous Reactions:** No hazardous reactions under normal use/handling; reacts with strong bases to form insoluble primaquine base; oxidizes in air/light to form quinone derivatives.

10.3 **Conditions to Avoid:** High temperature ($>205^{\circ}\text{C}$), direct UV/visible light, high humidity, contact with strong bases/oxidizers/reducing agents.

10.4 **Incompatible Materials:** Sodium hydroxide, potassium hydroxide, hydrogen peroxide, potassium permanganate, sodium sulfite, sodium carbonate.

10.5 **Decomposition Products:** Nitrogen oxides (NO_x), phosphoric acid fumes, carbon monoxide (CO), aromatic amines, quinone derivatives.

SECTION 11: Toxicological Information

11.1 Toxicological Effects

- Acute Toxicity: Oral (Rat, LD_{50}) = 150 mg/kg; Dermal (Rabbit, LD_{50}) = 850 mg/kg; Inhalation (Rat, LC_{50}) >3 mg/m³ (4h)
- Skin Irritation: Moderate to severe irritation (Rabbit, 4h exposure); redness/edema/blistering (reversible).
- Eye Irritation: Severe irritation (Rabbit, 24h exposure); corneal damage (may require medical treatment).
- Sensitization: No skin/respiratory sensitization (human/animal tests).
- Mutagenicity: Suspected genotoxicity (in vitro tests); positive for chromosome aberration in human lymphocytes.
- Carcinogenicity: Not classified by IARC/EPA/NTP.
- Reproductive Toxicity: May cause fetal harm at high dosages (animal tests); avoid exposure during pregnancy/lactation.
- Target Organ Toxicity: Eyes, skin, gastrointestinal tract, hematopoietic system; causes hemolysis in G6PD-deficient individuals (critical hazard).

SECTION 12: Ecological Information

12.1 **Toxicity:** Fish (Zebrafish, LC_{50}) = 65 mg/L (96h); Daphnia (EC_{50}) = 45 mg/L (48h); Algae (EC_{50}) = 80 mg/L (72h)

12.2 **Persistence and Degradability:** Moderately biodegradable ($\text{BOD}_5/\text{COD} = 0.48$) in aquatic environments; degradation half-life = 20-30 days (dark condition, shorter in light).

12.3 **Bioaccumulative Potential:** Low ($\log K_{ow} = 1.9$); no biomagnification in aquatic food chains.

12.4 **Mobility in Soil:** Moderate mobility; soluble in soil water; binds to soil organic matter (slight leaching to groundwater).

12.5 **PBT/vPvB:** Not classified as PBT/vPvB.

12.6 **Other Effects:** Moderately toxic to aquatic invertebrates and algae at high concentrations; inhibits soil microbial activity at high doses.

SECTION 13: Disposal Considerations

13.1 **Waste Treatment:** Dispose via licensed hazardous chemical waste treatment facilities; incinerate at high temperature (>900°C) with gas scrubbing to remove toxic fumes (especially aromatic amines); **do not dispose of with ordinary waste.** 13.2 **Packaging Waste:** Rinse packaging with dilute acid then water; dispose as hazardous plastic/metal waste; amber glass packaging not recycled (contaminated with toxic residues).

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. (Primaquine Phosphate) 14.3 **Transport Hazard Class:** 6.1 (Toxic substances) 14.4

Packaging Group: II 14.5 **Environmental Hazards:** IMDG: Marine pollutant (No) 14.6 **Special**

Precautions: Transport at ≤20°C; use light-proof packaging; avoid direct sunlight, moisture, collision and breakage of containers; store separately from food/feed/strong bases/oxidizers; mark with GHS hazard labels clearly. 14.7 **Incompatible Materials:** Avoid transport with strong alkaline substances, oxidizing agents, reducing agents and food/feed raw materials.

SECTION 15: Regulatory Information

15.1 National & International Regulations

- China: Chinese Pharmacopoeia (CP) compliant; Hazardous Chemical Safety Management Regulation (Class 6.1 toxic substance); Pharmaceutical Raw Material Management Regulation; controlled anti-malarial drug.
- International: GHS (Rev.9) Cat.3 Acute oral toxicity; REACH (EU) - Registered; TSCA (US) - Listed on Inventory; USP/EP/BP compliant (pharmaceutical grade); WHO essential medicine list. 15.2

Other: Comply with local pharmaceutical import/export (controlled drug), hazardous chemical transport and environmental protection regulations; record sales/purchase for anti-malarial drug management.

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, storage or non-compliance with safety precautions (especially use in G6PD-deficient individuals).
- Pharmaceutical grade Primaquine Phosphate meets CP/USP/EP/WHO quality standards; use only for formulated pharmaceutical/veterinary products (radical cure of malaria).
- For further technical/safety information, contact the supplier's R&D/EHS department (provide hematological safety guidance if needed).