



# 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:** Mefloquine **CAS-No.:** 59635-93-3 **Product Number:** MEF-20260224 **Brand:** SIGALD **Revision Date:** 24 FEB 2026

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

#### 1.1 Product Identifiers

- Synonyms: (±)-α-2,8-Bis(trifluoromethyl)-4-quinolinemethanol; Lariam

#### 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

- Emergency Phone #: +86-021-50350029 (CHEMTREC)

#### 1.4 Identified Uses & Uses Advised Against

- Identified Uses: Pharmaceutical raw material (anti-malarial); biomedical research reagent; veterinary anti-parasitic drug synthesis.
- Uses Advised Against: Not for direct oral/topical use (unformulated); no unapproved industrial/cosmetic/food use; avoid use in patients with neurological/psychiatric disorders.

### SECTION 2: Hazards Identification

2.1 GHS Classification: Acute oral toxicity, Category 4 (H302); Eye irritation, Category 2 (H319); Skin irritation, Category 2 (H315); Specific target organ toxicity (single exposure), Category 3 (Nervous system) (H335)

2.2 GHS Label Elements

- Hazard Pictogram: (Warning)
- Signal Word: **Warning**
- Hazard Statements: H302 - Harmful if swallowed; H315 - Causes skin irritation; H319 - Causes serious eye irritation; H335 - May cause respiratory irritation
- Precautionary Statements: P264, P270, P280, P305+P351+P338, P312, P332+P313
- 2.3 Physical and Chemical Hazards: No physical/chemical hazards; non-combustible
- 2.4 Health Hazards: Harmful if swallowed; causes skin/serious eye irritation; may cause respiratory irritation and neurological symptoms (dizziness, headache) upon high exposure; potential psychiatric side effects in sensitive individuals.
- 2.5 Environmental Hazards: Slightly toxic to aquatic organisms; fully 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: Mefloquine (CAS:59635-93-3) | Concentration: ≥98.5% | Classification: Acute oral toxicity Cat.4; Skin/Eye irritation Cat.2



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## SECTION 4: First Aid Measures

### 4.1 First-Aid Measures

- Inhaled: Move to fresh air; rest in a comfortable breathing position; consult a doctor if dizziness/coughing persists.
  - Skin Contact: Rinse skin with running water and mild soap for 10-15 mins; remove contaminated clothing; consult a doctor if redness/itching lasts.
  - 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.
- 4.2 Symptoms: Nausea/vomiting/dizziness (ingestion); skin redness/erythema; eye burning/tearing/blurred vision; headache/respiratory irritation at high exposure.
- 4.3 Medical Attention: Symptomatic treatment; no specific antidote; gastric lavage under medical supervision if large amount is ingested; monitor neurological and psychiatric function.
- 4.4 Notes to Physician: Inform of product composition and exposure/ingestion amount; check for nervous system abnormalities.

## SECTION 5: Firefighting Measures

5.1 Extinguishing Media: Water spray, foam, CO<sub>2</sub>, dry powder (all suitable)

5.2 Special Hazards: Non-combustible; decomposes at >255°C to release toxic fluorinated compounds and nitrogen oxides 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.

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; do not flush with water.
- 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.
  - Do not eat/drink/smoke in the work area; wash hands thoroughly with soap and water after handling.
  - Avoid contact with eyes, skin and mucous membranes; wear full PPE during handling.
- 7.2 Safe Storage



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- Storage Conditions: Cool, dry, dark warehouse;  $\leq 25^{\circ}\text{C}$ , relative humidity  $\leq 60\%$ ; airtight sealed container.
- Incompatibilities: Strong acids, strong oxidizing agents, alkaline solutions, heavy metal salts.
- 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 pharmaceutical APIs for human use (per hazardous chemical regulations).

### SECTION 8: Exposure Controls/Personal Protection

#### 8.1 Control Parameters

- Occupational Exposure Limit (OEL): No official national limit; recommended TWA:  $0.5\text{ mg/m}^3$  (inhalable dust)

#### 8.2 Exposure Controls

- Engineering Controls: Local exhaust ventilation (LEV) for dust-generating operations; dust collection system.
- Personal Protective Equipment (PPE)
  - Eye/Face: Chemical safety goggles (mandatory)
  - Skin: Nitrile rubber gloves ( $\geq 0.18\text{mm}$ ); impermeable protective clothing
  - Respiratory: N95/P95 dust mask for routine handling; powered air-purifying respirator (PAPR) for large-scale operations
  - Hand: Nitrile gloves (no latex/gloves with pinholes)
- Hygiene: Change contaminated clothing immediately; shower after handling; avoid touching eyes/face before hand washing.

### SECTION 9: Physical and Chemical Properties

- Physical State: Crystalline powder
- Color: White to off-white
- Odor: Almost odorless
- Melting Point:  $250\text{-}255^{\circ}\text{C}$  (decomposition)
- Boiling Point: N/A (decomposes before boiling)
- Flammability: Non-combustible
- Flash Point: N/A
- Autoignition Temperature:  $>360^{\circ}\text{C}$
- Solubility: Sparingly soluble in ethanol/methanol; insoluble in water; soluble in dilute organic acids
- Density ( $25^{\circ}\text{C}$ ):  $1.48\text{ g/cm}^3$
- Particle Size: 100-200 mesh (pharmaceutical grade, customizable)
- Explosive Properties: Non-explosive
- Oxidizing Properties: None
- pH Value: N/A (insoluble in water)
- Viscosity: N/A (solid)

## SECTION 10: Stability and Reactivity

10.1 Chemical Stability: Stable under recommended storage conditions ( $\leq 25^{\circ}\text{C}$ , dry, sealed). 10.2 Hazardous Reactions: No hazardous reactions under normal use/handling; reacts with strong acids to form soluble salts. 10.3 Conditions to Avoid: High temperature ( $>255^{\circ}\text{C}$ ), direct UV light, high humidity, contact with strong oxidizers/acids/alkalis. 10.4 Incompatible Materials: Concentrated HCl/H<sub>2</sub>SO<sub>4</sub>, hydrogen peroxide, potassium permanganate, sodium hydroxide solution. 10.5 Decomposition Products: Fluorinated hydrocarbons, nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), aromatic compounds.

## SECTION 11: Toxicological Information

### 11.1 Toxicological Effects

- Acute Toxicity: Oral (Rat, LD<sub>50</sub>) = 300 mg/kg; Dermal (Rabbit, LD<sub>50</sub>) >2000 mg/kg; Inhalation (Rat, LC<sub>50</sub>) >5 mg/m<sup>3</sup> (4h)
- Skin Irritation: Moderate irritation (Rabbit, 4h exposure); redness/edema (reversible).
- Eye Irritation: Severe irritation (Rabbit, 24h exposure); corneal edema (reversible with treatment).
- Sensitization: No skin/respiratory sensitization (human/animal tests).
- Mutagenicity: No mutagenic effects (in vitro/in vivo tests).
- 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, nervous system; potential psychiatric effects in sensitive individuals.

## SECTION 12: Ecological Information

12.1 Toxicity: Fish (Zebrafish, LC<sub>50</sub>) = 130 mg/L (96h); Daphnia (EC<sub>50</sub>) = 95 mg/L (48h); Algae (EC<sub>50</sub>) = 155 mg/L (72h) 12.2 Persistence and Degradability: Fully biodegradable (BOD<sub>5</sub>/COD = 0.60) in aquatic environments; degradation half-life = 15-25 days. 12.3 Bioaccumulative Potential: Low (log Kow = 3.2); no significant biomagnification in aquatic food chains. 12.4 Mobility in Soil: Low mobility; binds strongly to soil organic matter; no leaching to groundwater. 12.5 PBT/vPvB: Not classified as PBT/vPvB. 12.6 Other Effects: Slightly toxic to aquatic invertebrates at high concentrations; no adverse effects on soil microorganisms.

## SECTION 13: Disposal Considerations

13.1 Waste Treatment: Dispose via licensed hazardous chemical waste treatment facilities; incinerate at high temperature ( $>800^{\circ}\text{C}$ ) with gas scrubbing to remove toxic fumes (especially fluorinated compounds); **do not dispose of with ordinary waste**. 13.2 Packaging Waste: Rinse packaging with dilute acid then water; dispose as hazardous plastic/metal waste; do not recycle with food/cosmetic packaging.

## 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. (Mefloquine) 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: Transport at  $\leq 25^{\circ}\text{C}$ ; avoid direct sunlight, moisture, collision and breakage of containers; store separately from food/feed/strong acids/alkalis. 14.7 Incompatible Materials: Avoid transport with strong oxidizing agents, alkaline solutions 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.
  - International: GHS (Rev.9) Cat.4 Acute oral toxicity; REACH (EU) - Registered; TSCA (US) - Listed on Inventory; USP/EP/BP compliant (pharmaceutical grade).
- 15.2 Other: Comply with local pharmaceutical import/export, hazardous chemical transport and environmental protection regulations.

### 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.
- Pharmaceutical grade Mefloquine meets CP/USP/EP quality standards; use only for formulated pharmaceutical/veterinary products.
- For further technical/safety information, contact the supplier's R&D/EHS department.