



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)

Benzotriazole (BTA)

SECTION 1: Identification

1.1 Product Identifiers - Product Name: Benzotriazole - Product Number: BTA-CAS95147-202802 - Brand: SIGALD - CAS-No.: 95-14-7 - Synonyms: BTA; 1,2,3-Benzotriazole; Azimidobenzene - Chemical Family: Triazole Derivative

1.2 Details of the supplier of the safety data sheet

- Company : NEWAY SINOPHC TECH. LIMITED
- 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 Uses & Restrictions - Identified Uses: Corrosion inhibitor for copper and copper alloys; water treatment agent (cooling water systems); metal surface treatment (rust prevention); additive for lubricating oils, greases, and coatings; electronic industry (circuit board corrosion protection); photographic industry. - Uses Advised Against: Direct food contact; medical application; use in strong oxidizing environments beyond product limits; mixing with strong acids without proper protection.

SECTION 2: Hazards Identification

2.1 GHS Classification: Skin irritation (Category 2); Eye irritation (Category 2A); Aquatic hazard (Category 1); Specific target organ toxicity (single exposure, respiratory tract irritation) (Category 3)

2.2 GHS Label Elements - Hazard Pictogram: (Irritant) + (Aquatic hazard) - Signal Word: DANGER - Hazard Statements: H315 (Causes skin irritation); H319 (Causes serious eye irritation); H335 (May cause respiratory irritation); H410 (Very toxic to aquatic life with long-lasting effects) - Precautionary Statements: P261, P264, P270, P273, P280, P302+P352, P304+P340+P310, P305+P351+P338+P310, P310, P337+P313, P391, P501

2.3 Physical/Chemical Hazards: Combustible solid (flash point: 170°C); incompatible with strong oxidizers (e.g., chlorine, hydrogen peroxide, nitric acid) and strong acids; decomposes at temperatures >200°C to release toxic fumes (nitrogen oxides, carbon monoxide).

2.4 Health Hazards: Skin irritation (redness, itching, dryness); severe eye irritation (redness, tearing, corneal damage); inhalation of dust may cause respiratory tract irritation (coughing, sore throat); ingestion may cause gastrointestinal upset (nausea, vomiting, abdominal pain); long-term exposure may cause liver and kidney damage.

2.5 Environmental Hazards: Very toxic to aquatic organisms (fish, daphnia, algae); persistent in water bodies; no significant bioaccumulation but long-lasting toxic effects on aquatic ecosystems.

SECTION 3: Composition/Information on Ingredients

Substance/Mixture: Substance (main component ≥99.0%)



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>

Component	Content (w/w)	CAS-No.	Hazard Classification
Benzotriazole	≥ 99.0%	95-14-7	Skin Irrit. 2; Eye Irrit. 2A; Resp. Irrit. 3; Aquatic Toxicity 1
Water (Moisture)	≤ 0.5%	7732-18-5	Non-hazardous
Ash (Impurity)	≤ 0.1%	-	Non-hazardous

SECTION 4: First Aid Measures

- Inhaled: Remove to fresh air immediately; keep the affected person at rest in a comfortable position; if breathing is difficult, provide oxygen by a qualified person; seek medical attention immediately if irritation persists or severe symptoms occur. - Skin Contact: Remove contaminated clothing and shoes immediately; rinse skin thoroughly with plenty of running water for at least 15 minutes; apply emollient if irritation occurs; seek medical help if redness, blistering, or pain persists. - Eye Contact: Hold eyelids open; rinse eyes continuously with clean water or normal saline for at least 20 minutes; do not rub eyes; seek emergency medical help immediately (corneal damage risk). - Swallowed: Do not induce vomiting (risk of aspiration); rinse mouth with water (do not swallow); give small amounts of water to dilute (only if the person is conscious and able to swallow); seek emergency medical attention with this MSDS.

SECTION 5: Firefighting Measures

- Suitable Extinguishing Media: Water spray, foam, CO₂, dry powder, sand. - Unsuitable Media: High-pressure water jet (may disperse combustible dust and spread fire). - Special Hazards: Combustible solid; burns with a smoky flame; decomposes at high temperature (>200°C) to release toxic fumes (nitrogen oxides, carbon monoxide); dust may form explosive mixtures in air at high concentrations. - Firefighter Advice: Wear full firefighting protective equipment (including self-contained breathing apparatus, fire-resistant suit, and face shield); keep a safe distance; cool containers with water spray; avoid inhalation of smoke and decomposition fumes; use dust suppression measures to prevent dust explosion.

SECTION 6: Accidental Release Measures

- Personal Precautions: Wear dust mask (N95 or equivalent), chemical-resistant gloves (nitrile or rubber), safety goggles, and protective clothing; avoid direct contact with spilled powder and dust; use respiratory protection in confined spaces or high-dust concentrations. - Environmental Precautions: Prevent powder from entering sewers, rivers, lakes, or other water bodies; notify local environmental authorities if contamination occurs; isolate the spilled area to avoid spread to aquatic ecosystems. - Cleanup: Small spill - collect powder with a clean shovel or vacuum cleaner (equipped with dust filter), place in a sealed container for disposal; large spill - dike the area with sand or soil, collect all powder into sealed corrosion-resistant drums, and treat by professional hazardous waste disposal institutions; clean the area with water (avoid washing into water bodies) and neutralize if necessary.

SECTION 7: Handling and Storage



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>

- Handling: Operate in well-ventilated area; use dust-collecting equipment to suppress dust generation; avoid creating dust clouds (explosion risk); wear full personal protective equipment; do not mix with strong oxidizers and strong acids; avoid splashing and spillage; wash hands and face thoroughly after handling. - Storage: Store in cool, dry, well-ventilated warehouse (5-35°C); keep container tightly closed to prevent moisture absorption, dust contamination, and caking; avoid direct sunlight and high temperature (>50°C); store separately from strong oxidizers, strong acids, food-grade materials, and combustible materials; stack containers stably (no more than 3 layers) to prevent tipping; label clearly with hazard warnings. - Shelf Life: 24 months (unopened, specified conditions); use promptly after opening, seal tightly after each use; do not use if caking, discoloration, or moisture absorption occurs. - Compatibility: Incompatible with strong oxidizers (H₂O₂, ClO₂, HNO₃), strong acids (HCl, H₂SO₄), and heavy metal salts (FeCl₃, CuSO₄).

SECTION 8: Exposure Controls/Personal Protection

- Engineering Controls: Install local exhaust ventilation to remove dust and vapors; maintain good general ventilation in the workplace; use dust-collecting equipment (bag filters) during handling; install emergency eyewash stations and safety showers nearby the workplace. - PPE: Respiratory protection: Use dust mask (N95/P100) when dust is generated or in confined spaces; Hand protection: Chemical-resistant gloves (nitrile or rubber, thickness ≥ 0.4 mm); Eye/Face protection: Safety goggles and face shield (dust-proof); Body protection: Dust-proof protective clothing and cap. - Hygiene Measures: Do not eat, drink, or smoke in the workplace; do not touch eyes, face, or mouth with contaminated hands; remove contaminated clothing and shoes immediately after contact; wash contaminated clothing separately before reuse; provide washing facilities (soap, water) near the workplace.

SECTION 9: Physical and Chemical Properties

Physical State: Solid (crystalline powder); Color: White to off-white; Odor: Slight characteristic odor pH (25°C, 1% Aqueous Solution): 5.0-7.0; Melting Point: 98.0-100.0°C; Boiling Point: 357°C (decomposes) Flash Point: 170°C (closed cup); Autoignition Temperature: 420°C; Density (25°C, solid): 1.36 g/cm³ Solubility: Slightly soluble in cold water (1.0-1.5 g/L at 25°C), easily soluble in hot water, ethanol, methanol, acetone, and benzene; insoluble in n-hexane Vapor Pressure (25°C): <0.01 hPa; Partition Coefficient (log P): 1.5 (estimated); Viscosity: Not applicable (solid)

SECTION 10: Stability and Reactivity

- Stability: Stable under normal storage and handling conditions; maintains corrosion inhibition performance and chemical stability within the shelf life; stable in neutral and slightly acidic/alkaline environments; gradual decomposition in strong oxidizing environments and at temperatures >200°C. - Incompatibilities: Strong oxidizers (hydrogen peroxide, chlorine dioxide, nitric acid) which may oxidize the triazole ring and degrade the product; strong acids (hydrochloric acid, sulfuric acid) which may cause protonation and reduce solubility; heavy metal salts which may form insoluble complexes. - Hazardous Decomposition Products: At temperatures >200°C, decomposes to release nitrogen oxides (NO_x), carbon monoxide (CO), and carbon dioxide (CO₂); contact with strong oxidizers may generate toxic chlorine-containing compounds.

SECTION 11: Toxicological Information

- Acute Toxicity: Oral (Rat, LD₅₀): 1000 mg/kg; Dermal (Rabbit, LD₅₀): >2000 mg/kg; Inhalation (Rat, LC₅₀): >2 mg/m³ (4-hour exposure, dust). - Skin/Eye Irritation: Mild to moderate skin irritation (Category 2); severe eye irritation (Category 2A) with potential corneal



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>

damage; no corrosive effects. - Respiratory Toxicity: Inhalation of dust causes respiratory tract irritation (Category 3); may lead to coughing, sore throat, and shortness of breath in severe cases. - Other Toxicity: No mutagenic, carcinogenic, or teratogenic effects reported (per OECD test guidelines); long-term oral exposure may cause liver and kidney function abnormalities in animals.

SECTION 12: Ecological Information

- Fish (Zebrafish, LC_{50}): 0.8 mg/L (96-hour exposure) - Daphnia (EC_{50}): 0.5 mg/L (48-hour exposure) - Algae (Growth Inhibition, EC_{50}): 1.2 mg/L (72-hour exposure) - Biodegradability: Poorly biodegradable ($BOD_5/COD < 0.1$); persistent in water bodies for 30-60 days. - Environmental Fate: Resistant to hydrolysis and photodegradation; in natural water bodies, exists in dissolved and adsorbed states (adsorbed to sediment); low bioaccumulation factor ($BCF < 100$) in aquatic organisms.

SECTION 13: Disposal Considerations

- Product Waste: Collect waste product in a sealed container; do not mix with other wastes; dispose of via licensed hazardous waste treatment facilities in accordance with local regulations (incineration or landfill after stabilization); do not discharge into water bodies or sewers. - Packaging Waste: Rinse packaging containers thoroughly with ethanol (then rinse with water); neutralize the rinse water (if necessary); dispose of the container as hazardous waste if contaminated, or as general solid waste if no residual product remains; recycle packaging materials only if permitted and after thorough cleaning. - Special Disposal Notes: Incineration must be conducted in professional facilities equipped with NO_x removal systems; do not landfill without prior stabilization (risk of leaching into groundwater); comply with local environmental protection regulations for hazardous waste disposal.

SECTION 14: Transport Information

- UN Number: ADR/RID: UN 2811; IMDG: UN 2811; IATA-DGR: UN 2811 - UN Proper Shipping Name: Toxic solid, organic, n.o.s. (Benzotriazole) - Transport Class: 6.1 (Toxic Substances); Packaging Group: III; Environmental Hazards: Yes (Marine Pollutant) - Special Precautions: Transport in sealed, dust-proof packaging (paper-plastic composite bags with PE liner or iron drums); avoid collision, vibration, and impact to prevent packaging damage and powder leakage; keep away from strong oxidizers, strong acids, and food-grade goods during transport; store in a cool, ventilated area during transit; do not expose to sunlight or high temperature; transport by qualified hazardous chemical transport vehicles; drivers and handlers must be trained and familiar with hazard characteristics and emergency handling methods.

SECTION 15: Regulatory Information

- National Regulations (China): Complies with Hazardous Chemical Safety Management Regulation; meets GB/T 19469-2004 (Water Treatment Agents - Benzotriazole) and GB 5085.1-2007 (Hazardous Waste Identification Standards); compliant with water treatment agent use standards for industrial cooling water systems. - International Regulations: GHS Rev.9 (Skin Irrit. 2, Eye Irrit. 2A, Resp. Irrit. 3, Aquatic Toxicity 1); REACH (EU, registered); TSCA (US, listed); FDA (US, compliant for industrial use only).

SECTION 16: Other Information



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>

- Revision Date: 20 FEB 2025 - Disclaimer: Based on current scientific knowledge and product testing data; supplier not liable for damage caused by improper use, storage, handling, or non-compliance with regulations; the information in this MSDS is accurate to the best of our knowledge at the time of revision.



纳维盈医化科技
NEWAY SINOPHC TECH