

Benzotriazole (BTA) MSDS

Product Name and Identification

- **Product Name:** [Benzotriazole \(BTA\)](#)
- **Chemical Formula:** C₆H₅N₃
- **CAS Number:** 95-14-7
- **Relevant Uses:** Corrosion inhibitor for copper and its alloys, antifreeze formulations, and industrial water treatment.
- **Manufacturer/Supplier:** [Insert Manufacturer Information]
- **Emergency Contact Number:** [Insert Emergency Contact Information]

Composition/Ingredients

- **Chemical Name:** Benzotriazole
- **Concentration:** 98-100%
- **Synonyms:** 1H-Benzotriazole, 1,2,3-Benzotriazole
- **CAS Number:** 95-14-7
- **EC Number:** 202-394-1

Hazards Identification

- **Classification:**
 - Acute toxicity (Category 4, oral)
 - Eye irritation (Category 2)
 - Specific target organ toxicity (Category 3, respiratory irritation)
- **Hazard Statements:**
 - H302: Harmful if swallowed.
 - H319: Causes serious eye irritation.
 - H335: May cause respiratory irritation.
- **Precautionary Statements:**
 - P261: Avoid breathing dust or fumes.
 - P280: Wear protective gloves and eye protection.
 - P301 + P312: IF SWALLOWED, call a doctor if you feel unwell.
 - P305 + P351 + P338: IF IN EYES, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

First Aid Measures

- **General Advice:**
 - Seek immediate medical attention for serious exposure.
- **If Inhaled:**

- Move the individual to fresh air. Keep them calm. If symptoms persist, seek medical attention immediately.
- **If on Skin:**
 - Wash with soap and water for at least 15 minutes. Remove contaminated clothing. If irritation develops, consult a doctor.
- **If in Eyes:**
 - Rinse with water for several minutes, carefully removing contact lenses if applicable. If irritation persists, seek medical attention.
- **If Swallowed:**
 - Rinse mouth with water. Do not induce vomiting without medical advice. Call a doctor or poison center immediately.

Handling and Storage

- **Handling:**
 - Avoid contact with skin, eyes, and clothing. Prevent the release of dust into the air. Use local exhaust ventilation where possible.
 - Use proper protective equipment and work in a well-ventilated area.
- **Storage:**
 - Store in a tightly closed container in a cool, dry, and well-ventilated area. Keep away from strong oxidizing agents and direct sources of heat.

Exposure Controls/Personal Protection

- **Exposure Limits:**
 - No established limits. Utilize engineering controls to maintain safe air concentrations.
- **Personal Protective Equipment (PPE):**
 - **Respiratory Protection:**
 - Use an approved respirator if exposure limits are exceeded or if irritation occurs.
 - **Eye Protection:**
 - Wear safety goggles or a face shield to prevent eye contact.
 - **Skin Protection:**
 - Use chemical-resistant gloves and protective clothing when handling the substance.
 - **General Hygiene:**
 - Avoid eating, drinking, or smoking during use. Wash hands thoroughly after handling.

Physical and Chemical Properties

- **Appearance:** White to off-white crystalline powder
- **Odor:** Odorless
- **pH** (1% solution): Neutral (6.0-7.0)

- **Melting Point:** 94-98°C
- **Boiling Point:** Decomposes before boiling
- **Flash Point:** Not applicable
- **Solubility:**
 - Slightly soluble in water (~20 g/L at 25°C).
 - Soluble in organic solvents such as ethanol and acetone.
- **Density** (at 20°C): ~1.36 g/cm³

Stability and Reactivity

- **Stability:**
 - Stable under normal storage conditions and recommended use.
- **Reactivity:**
 - Reacts with strong oxidizing agents and acids.
- **Conditions to Avoid:**
 - Excessive heat, moisture, and incompatible substances.
- **Hazardous Decomposition Products:**
 - May produce nitrogen oxides, carbon monoxide, and carbon dioxide under fire or decomposition conditions.

Toxicological Information

- **Acute Toxicity:**
 - Harmful if ingested in large amounts.
 - Oral LD50 (rat): ~560 mg/kg
- **Skin Irritation:**
 - Prolonged contact may cause mild irritation.
- **Eye Damage:**
 - Irritating to eyes, with potential for redness and swelling.
- **Chronic Effects:**
 - Long-term exposure to dust or vapors may irritate the respiratory system. No known significant long-term health risks if handled properly.

Disposal Considerations

- **Waste Treatment Methods:**
 - Dispose of product and contaminated packaging in accordance with local, regional, and national regulations. Do not release into sewers or waterways.
- **Packaging:**
 - Empty containers should be decontaminated and recycled or disposed of as chemical waste.