MATERIAL SAFETY DATA SHEET

PREVENTOL® BZT 220D/880S

RHEIN CHEMIE CORPORATION
145 Parker Court
Chardon, OH 44024

TRANSPORTATION EMERGENCY
CALL CHEMTREC .............: (800) 424-9300
INTERNATIONAL ............: (703) 527-3887

NON-TRANSPORTATION
RCC EMERGENCY PHONE : (440) 285-3547
RCC INFORMATION PHONE: (800) 289-2436

Section 1: Product and Company Identification

Product Name: PREVENTOL® BZT 220D/880S
Article Number: 56766328
Chemical Family: Heterocyclic Nitrogen
Chemical Name: Benzotriazole
CAS Number: 95-14-7
Product Use: Corrosion inhibitor and reducing agent

Section 2: Composition/Information on Ingredients

HAZARDOUS INGREDIENTS

Ingredient Name/
CAS Number                Exposure Limits     Concentration
                                 Min.  Max.

Benzotriazole
95-14-7                     OSHA (PEL):
Not Established
ACGIH (TLV):
Not Established

95%

Section 3: Hazards Identification

EMERGENCY OVERVIEW

WARNING! Color: Light Yellow Form: Solid Granules Odor: Characteristic
May cause mechanical irritation to the eyes, skin and respiratory tract. Harmful if
inhaled. May cause eye irritation. May be harmful if swallowed. This material can form
dust-air mixtures that may be an explosion hazard when exposed to ignition sources or
high temperature! Ground containers and equipment before transferring to avoid static
sparks.
POTENTIAL HEALTH EFFECTS

Route(s) of Entry: Inhalation, Skin Contact, Eye Contact, Ingestion

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation Hazards
Acute Inhalation Hazards: May cause mechanical irritation to the respiratory tract. Harmful if inhaled.

Chronic Inhalation Hazards: None reported for this product as a whole.

Skin Hazards
Acute Skin Hazards: This product is non-irritating to the skin.

Chronic Skin Hazards: None reported for this product as a whole.

Eye Hazards
Acute Eye Hazards: This product may cause some irritation with redness, tearing, and pain.

Chronic Eye Hazards: None reported for this product as a whole.

Ingestion Hazards
Acute Ingestion Hazards: This product is moderately toxic by ingestion.

Chronic Ingestion Hazards: None reported for this product as a whole.

Carcinogenic Components:
NTP: None
IARC: None
OSHA: None

Section 4: First Aid Measures

First Aid for Eye: In case of contact, flush eyes with large quantities of water for at least 15 minutes. The eyelids should be held apart during irrigation to ensure thorough flushing of all eye tissue. Get medical attention if irritation develops or persists.

First Aid for Skin: In case of skin contact, wash affected areas with soap and water. Get medical attention if irritation develops or persists. Wash clothing and clean shoes before reuse.

First Aid for Inhalation: If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

First Aid for Ingestion: If material is ingested, do not induce vomiting unless directed to do so by medical personnel. Get medical attention.
Section 5: Fire Fighting Measures

**Flash Point:** Approximately 383 °F (195 °C) DIN 51758

**Flammable Limits:**
- **Upper Explosion Limit (UEL %):** Not Established
- **Lower Explosion Limit (LEL %):** Not Established

**Auto-ignition Temperature:** Approximately 752 °F (400 °C)

**Extinguishing Media:**
- **Suitable:** Dry Chemical, Foam, Water
- **Unsuitable:** Carbon dioxide (CO2)

**Special Fire Fighting Procedures:** Evacuate non-emergency personnel to a safe area. Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. Use of a direct high pressure water stream may disperse dust clouds possibly causing an explosion. During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion.

**Unusual Fire/Explosion Hazards:** Dusts at sufficient concentrations can form explosive mixtures with air.

Section 6: Accidental Release Measures

**Spill or Leak Procedures:** Emergency clean-up personnel should wear appropriate protection when entering the spill area for clean-up. Keep unnecessary personnel out of spill area. Extinguish all ignition sources. Avoid creation of dust clouds, as a dust/air mixture may be explosive. Remove mechanically by method which minimizes generation of airborne dust, and place in appropriately marked containers for disposal.

Section 7: Handling and Storage

**Storage Temperature:** Not Established - Ambient Recommended

**Handling/Storage Precautions:** Avoid breathing dust. Avoid contact with eyes and skin. Do not taste or swallow. Minimize dust generation and accumulation, especially on elevated surfaces (roof beams and trusses, ventilation ducts, wall sills). Keep open flames, sparks and heat away from dusty areas. All handling equipment should be properly grounded to prevent the build-up of electrostatic charges. Avoid creating dust and dust clouds. Use non-sparking tools and equipment. Consult NFPA 654 Standard for details on safe handling and equipment design. Store in a cool, dry place.
Section 8: Exposure Controls/Personal Protection

**Personal Protection Equipment**

**Eye Protection Requirements:** Safety glasses with side shields or goggles are recommended.

**Skin Protection Requirements:** Rubber gloves and other protective clothing as appropriate to prevent skin contact.

**Ventilation Requirements:** Ventilation equipment should be explosion-proof if explosive concentrations of dust, vapor or fume are present.

**Respirator Requirements:** Under conditions of frequent use or heavy exposure, a NIOSH/MSHA respirator is recommended. Observe OSHA regulations for respirator use (29 CFR 1910.134.)

**Additional Protective Measures:** Employees should wash their hands and face before eating, drinking, or using tobacco products. Emergency showers and eye wash stations should be available. Educate and train employees on the safe use and handling of this product.

Section 9: Physical and Chemical Properties

**Physical Form:** Solid
**Appearance:** Granules
**Color:** Light Yellow
**Odor:** Characteristic
**Molecular Weight:** 119.1
**pH:** Not Established
**Boiling Point:** > 392 °F (> 200 °C)
**Melting/Freezing Point:** Not Established
**Viscosity:** Not Applicable
**Solubility in Water:** 19 g/l @ 68 °F (20 °C)
**Specific Gravity:** 1.19 @ 212 °F (100 °C)
**Vapor Pressure:** 7.5 mmHg @ 77 °F (25 °C)

Section 10: Stability and Reactivity

**Stability:** Stable
**Hazardous Polymerization:** Will not occur
**Substances to Avoid:** Oxidizing agents, Reducing agents.
**Conditions to Avoid:** High Heat.
**Decomposition Temperature:** Approximately 320 °F (160 °C)
**Decomposition Products:** Oxides of carbon, Oxides of nitrogen, and other undetermined fragments.
Section 11: Toxicological Information

Toxicity Data for PREVENTOL® BZT 220D/880S
Toxicity Note: No data available for this product.

Toxicity Data for Benzotriazole
Acute oral toxicity: LD50 = 560 mg/kg (Rat)
Acute dermal toxicity: LD50 => 1,000 mg/kg (Rat)
Acute inhalation toxicity: 1,910 mg/m3, 3 hrs,
Eye Irritation: Slightly irritating (Rabbit)
Skin Irritation: Non-irritating 4 hrs, (Rabbit)
Sensitization: (Human) May cause sensitization by skin contact.
Repeated Dose Toxicity: (Rat) 13 Days, 103 mg/kg
Carcinogenicity: (Rat) 1 Years, In Fischer 344 rats there was an increased incidence of brain tumors, however, there was no convincing evidence that under the conditions of this bioassay 1H-benzotriazole was carcinogenic in rats of either sex. Evidence of Carcinogenicity in Rats: Equivocal.

(Mouse) 1 Years, In female B6C3F1 mice there was an increased incidence of alveolar/bronchiolar carcinomas, however, there was no convincing evidence that under the conditions of this bioassay 1H-benzotriazole was carcinogenic in B6C3F1 mice of either sex. Levels of Evidence of Carcinogenicity: Male Mice: Negative; Female Mice: Equivocal.

Mutagenicity: Bacterial - gene mutation assay, E. coli, positive
Bacterial - gene mutation assay, Salmonella typhimurium, positive

Section 12: Ecological Information

Ecological Data for PREVENTOL® BZT 220D/880S
Ecological Note: No data available for this product.

Ecological Data for Benzotriazole
Biological Oxygen Demand (BOD): 1 mg/g 5 Days
Fish Toxicity: 25 mg/L, 96 hrs. Bluegill (Lepomis macrochirus)
Invertebrate Toxicity: 63 mg/L, 48 hrs. Water flea (Daphnia magna)
Biodegradation: 80 - 90 %, 28 Days. Readily biodegradable
Inhibition Bacteria: 1,060 mg/L, Activated sludge microorganisms
Plant Toxicity: 231 mg/L, 72 hrs. Green algae (Scenedesmus subspicatus)

Section 13: Disposal Considerations

Waste Disposal Method: Disposal must be in compliance with federal, state and local environmental control regulations.

Empty Container Precautions: Recondition or dispose of empty container in accordance with government regulations.

Other Disposal Notes: Rhein Chemie requires that CHEMTREC be immediately notified (800-424-9300) when this product is unintentionally released from its container during its course of distribution, regardless of the amount released. Such notification must be immediate and made by the person having knowledge of the release. Distribution includes transportation, storage incidental to transportation, loading and unloading.

Section 14: Transportation Information

Technical shipping name: Azole

Product Label: Product Label Established

Domestic Surface Transportation (DOT)
Hazard Class or Division: Non-Regulated

Marine Transportation (IMO / IMDG)
Hazard Class Division: Non-Regulated
Number:

Air Transportation (ICAO / IATA)
Hazard Class Division: Non-Regulated
Number:

Section 15: Regulatory Information

United States Federal Regulations
OSHA Hazcom Standard Rating: Hazardous

TSCA Inventory List: On TSCA Inventory

CERCLA Hazardous Substance:
Component(s) Reportable Quantity
None

Material Name: PREVENTOL® BZT 220D/880S Article Number: 56766328
SARA Title III
SARA Section 302 Extremely Hazardous Substances:
Component(s)/ CAS Number
None

Concentration
Min. Max.

SARA Section 311/312 Hazard Categories:
Immediate Health Hazard

SARA Section 313 Toxic Chemicals:
Component(s)/ CAS Number Reporting Concentration
None

Threshold Min. Max.

RCRA Status:
If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

State Right-to-Know Information
Component(s)/ CAS Number State Code Concentration
Benzotriazole 95-14-7

MA-H 95%

State Code Translation Table
MA-H = Massachusetts Hazardous Substance List

Section 16: Other Information

HMIS Rating
Health | 2
Flammability | 1
Reactivity | 0
0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
*Chronic Health Hazard

RHEIN CHEMIE CORPORATION’s method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by RHEIN CHEMIE CORPORATION as a customer service.

Contact: HES Dept.
Phone: (440) 285-3547
MSDS Number: 00000007653

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Article Number: 56766328
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