Benzotriazole Granular
Safety Data Sheet

NORTH Metal and Chemical Co.

1. Company Identification and Product Hazard Overview:

Product Name : Benzotriazole-1,2,3

Synonyms : Benzotriazole Granular; BZT 100%; BTA; 1H-Benzotriazole

Recommended Use : Corrosion Inhibitor in water treatment programs.

Manufactured for : **NORTH Metal and Chemical Company**

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In Case of Emergency: Call CHEMTREC (24H): 1-800-424-9300

2. Hazard Identification:

GHS Classification:
Acute Toxicity - Oral (Cat. 4), Dermal (Cat. 4), Inhalation (Cat. 4)
Eye Irritation (Category 2A)
Acute Aquatic Toxicity (Category 3)
Chronic Aquatic Toxicity (Category 3)

Signal Word: Warning
Pictogram:

Hazard Statements:

H302 + H312 + H332 : Harmful if swallowed, inhaled or if in contact with skin.
H319 : Causes serious eye irritation.
H402 + H412 : Harmful to aquatic life with long lasting effects.

Precautionary Statements:
Prevention:

P280 : Wear protective gloves/protective clothing such as apron, boots and safety glasses with side shields.
P261 + P271 : Avoid breathing dust and/or mist. Use in a well-ventilated area
P264 : Wash all affected body parts thoroughly after handling.
P270 : Do not eat, drink, or smoke when using this product.
P273 : Avoid release to the environment.

Response:

P302 + P352 : IF ON SKIN: Wash with plenty of water.
P304 + P340 : IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P301 + P312 : IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell
P330 : Rinse mouth
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 : If eye irritation persists: Get medical advice/attention
P312 : Call a POISON CENTER/doctor if you feel unwell.
P391 + P501 : Collect Spillage. Dispose of contents/containers in accordance with local regulations

3. Composition/Information on Ingredient:

Chemical Name : Benzotriazole (Granular/Powder): 1H-Benzotriazole, BTA, Benzotriazole-1,2,3

Chemical Family : Azoles.

Chemical Formula : $C_6H_5N_3$

Substance:	CAS Number:	EC	Compo. (%)
Benzotriazole (Powder/Granular)	95-14-7	202-384-1	> 98.0

4. First Aid Measures:

General recommendation: If victim is unconscious, get medical attention immediately. Place the unconscious victim in recovery position and maintain an open airway. Loosen tight clothing.

Eyes : Flush skin with running water for at least 15 minutes, periodically lifting upper and lower lids. Remove any contact lenses if safe to do so and while rinsing. Get medical attention immediately.

Skin : Wash skin with plenty of running water. Remove contaminated clothing. Get medical attention if needed. Clean and dry contaminated clothing thoroughly before reuse.

Ingestion : If the product is swallowed, call doctor/physician and get medical attention immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Inhalation : If safe to do so, remove individual from further exposure. Keep warm and at rest. If breathing has stopped give artificial respiration. Get medical attention/consult a physician.

PPE for first responders : Gloves, safety goggles, boots and dust/vapor respirator.

5. Fire Fighting Measures:

Flash Point (°C) : 195 °C.

Flammable Limits : Not available.

Auto ignition Temp. : 400°C

Flammable Class : Not available.

Flame Propagation or Burning Rate of Solids : Not available.

General Hazard : Evacuate personnel downwind in-order to avoid inhalation of irritating and/or harmful fumes and smoke.

Extinguishing Media : Water spray, chemical-type foam. Appropriate for the surrounding area.

Hazardous Combustion Products : Carbon monoxide, carbon dioxide, nitrogen oxides.

Fire Fighting Procedures: Hazardous decomposition and combustion products such as carbon/nitrogen oxides can be formed if product is burning. Cool exposed containers with water spray to prevent over heating.

Fire Fighting Equipment: Respiratory and eye protection are required for fire fighting personnel. Full protective equipment (bunker gear) and self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. Evacuate area and fight fire from safe distance or a protected location. Move fire-exposed containers, if allowable without sacrificing the safety of the firefighters. If possible, firefighters should control run-off water to prevent environmental contamination.

Sensitivity to Static Discharge : Not sensitive.

Sensitivity to Mechanical Impact : Not sensitive.

6. Accidental Release Measures:

Protective Gear for Personnel:

For Small Spill : Safety glasses or chemical splash goggles, chemically resistant gloves (rubber/latex), chemically resistant boots, and any appropriate body protection to minimize direct contact to the skin.

For Large Spill : Triple gloves (rubber and nitrile over latex), chemical resistant suit, boots, hard hat, full face mask/an air purifying respirator (NIOSH approved). Self contained breathing apparatus must be worn in situations where fumigant gas generation and low oxygen levels are a consequence of contamination from the leak.

Spill Clean-up Procedures:

For Small Spill : In the event of a small spill, the leak should be contained with an absorbent pad and placed in a properly labeled waste disposal container immediately. Clean the spill area with water. Do not let chemical/waste enter the environment

For Large Spill : In the event of a large spill, contain the spill immediately and dispose according to state, federal, and local hazardous waste regulation. Do not let chemical/waste enter the environment.

Environmental Precaution : Water spill: use appropriate containment to avoid run off or release to sewer or other waterways.
Land spill: use appropriate containment to avoid run off or release to ground.
General precaution: remove containers of strong acid and alkali from the release area.

Release Notes : If spill could potentially enter any waterway, including intermittent dry creeks, contact local authorities.

7. Handling and Storage:

Handling : Use appropriate personal protective equipment as specified in Section 8. Handle in a well-ventilated area. Handle in a manner consistent with good industrial/manufacturing techniques and practices. Wash hands thoroughly with soap and water after use. Remove contaminated clothing and protective equipment before entering eating areas.

Storage : Store in a cool, dry well-ventilated area. Keep containers closed when not in use. Keep product isolated from incompatible materials/conditions.

8. Exposure Controls and Personal Protection:

Engineering Controls : Use appropriate engineering controls to minimize exposure to vapors generated via routine use. Maintain adequate ventilation of workplace and storage areas.

Personal Protective Equipment : **Eyes and face:** Wear safety glasses with side shields or goggles when handling this material.
Skin: Avoid direct contact with skin. Wear rubber gloves, apron, boots or whole bodysuit when handling this product.
Respiratory: Avoid breathing vapor or mist. Use NIOSH approved respiratory protection equipment. If used, full face-piece replaces the need for face shield and/or chemical goggles. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application.

Work Hygienic Practices : Facilities storing or using this material should be equipped with emergency eyewash, and a safety shower. Good personal hygiene practices should always be followed.

Exposure Limits:

Substance:	CAS No.:	OSHA STEL	OSHA PEL	ACGIH TLV	ACGIH STEL
Benzotriazole (Granular/Powder)	95-14-7	N/A	N/A	N/A	N/A

9. Chemical and Physical Properties:

Appearance	: Solid (Granules)	**Decomposition Temp.**	: Not available
Odor	: Characteristic	**Evaporation Rate**	: Not available
Odor threshold	: Not available	**Lower Explosive Limit**	: 2.4% by volume
Color	: White to Off White	**Upper Explosive Limit**	: Not available
pH (neat)	: 5.5 - 6.0	**Vapor Pressure**	: 0.04 mmHg @ 20 °C
Melting Point	: 98.5°C	**Vapor Density**	: 4.1
Freezing Point	: Not available	**Specific Gravity**	: Not available
Boiling Range	: 204°C @ 15 mm Hg	**Solubility**	: Soluble in water 2.0 wt % @ 25°C
Flash Point	: 195°C	**Partition Coefficient**	: Not available
Viscosity (cPs) @ 25 °C	: Not applicable	**Auto Ignition Temp.**	: 400°C

10. Stability and Reactivity:

Stability : The product is stable under normal ambient conditions of temperature and pressure.

Polymerization : Polymerization will not occur.

Hazardous Decomposition Products : Carbon and nitrogen oxides.

Incompatible Materials : Strong alkalis, amines, nitrites, sulfites, oxidizing agents.

Conditions to Avoid : Avoid exposure to extreme temperatures, contact with incompatible chemicals, prolonged exposure to light.

11. Toxicological Information:

Acute Toxicity Data:

Oral LD_{50}	: 560 mg/kg (rat)
Dermal LD_{50}	: >1 gm/kg (rat)
Inhalation LD_{50}	: >1.5 mg/l (rat, 4 hours)

Corrosion/Irritation:

Skin	: Not irritating (Rabbit, 4 hours)
Eyes	: Highly irritating (Rabbit, dose = 100mg, 72 hours)

Sensitization:

Respiratory	: No data available.
Skin	: No data available.

Carcinogenicity: : This product is not listed on OSHA, NIOSH, IARC, or NTP as cancer-causing
Mutagenicity : No data available.
Reproductive Effects : No data available.
Teratogenic Effects : No data available.

Routes of Exposure : Eyes, Skin, Inhalation, Ingestion

Long Term Exposure Health Effects:

Eyes	: Causes serious damage to the eyes.
Skin	: Harmful if absorbed through skin, prolonged exposure is severely harmful to health.
Inhalation	: Toxic if inhaled, causes respiratory tract irritation.
Ingestion	: Harmful if ingested, prolonged exposure is severely harmful to health.

RTECS: DM1225000

12. Ecological Information:

All work practices must be aimed at eliminating environmental contamination.

Biodegradability : Readily biodegradable

Bioaccumulative Potential : Log K_{ow}: 1.44

Terrestrial Ecotoxicity : This material may be harmful or fatal to contaminated plants or animals, especially if large volumes are released into the environments.

Aquatic Ecotoxicity (Acute)

Fish Toxicity : Salmo gairdneri (fish, freshwater, estuary) EC_{50} (96h) - 24.4 mg/L

Aquatic Invertebrates: Daphnia magna (Crustacea) EC_{50} (48h) - 91 mg/L

Aquatic Plants : Selenastrum capricornutum (Algae) EC_{50} (72 h) - 231 mg/L

Mobility in Soil : Expected to have high mobility in soil

Other Adverse Effects : No data available.

13. Disposal Considerations:

Disposal Method : Dispose of waste at an appropriate waste disposal facility according to current applicable laws and regulations.

For Large Spills : Contain material and call local authorities for emergency assistance.

Product Disposal : Dispose of at a supervised incineration facility or an appropriate waste disposal facility according to current applicable local, state and federal laws, regulations and product characteristics at time of disposal.

Empty Container : Contaminated container should be labeled and disposed in accordance to local, state and federal laws and regulations.

14. Transport Information:

Regulatory Information	UN No.	Proper Shipping Name	UN Class	Packing Group	Label
US DOT	-	NOT DOT REGULATED	-	-	-

15. Regulatory Information:

U.S. Federal Regulations:

TSCA: All components of this product are listed on the TSCA inventory.

CERCLA: Not listed

SARA TITLE III (EPCRA) Section 302/304: No components of this product were found to be on the hazardous chemicals list.

SARA TITLE III (EPCRA) Section 311/312: Acute health hazard.

OSHA: Not listed

California Proposition 65: Not listed

16. Other Information:

HMIS and NFPA Rating Scale:

HMIS: Hazardous Materials Identification System

Numeric Scale for Health (Blue), Flammability (Red), and Physical Hazard (Yellow):

HMIS Rating:*

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	J

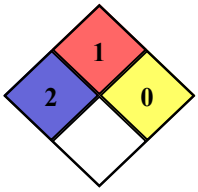
RATING	HEALTH	FIRE HAZARD	PHYSICAL HAZARD
0	No significant risk to health	Will not burn	Product stable under ambient temperature and condition.
1	Can cause irritation or minor reversible injury.	Must be preheated to burn	Product can become unstable at high temperatures and pressures.
2	Can cause temporary or residual injury	Ignites when moderately heated	Product can become unstable and cause violent chemical reaction at normal pressures and temperatures
3	Can cause serious injury	Ignition occurs at normal temperature	Product capable of forming explosive mixtures and is capable of detonation in presence of strong initiating source.
4	Can be lethal from single or repeated exposure.	Extremely flammable	Product is highly explosive and unstable. Exothermic reactions possible with decomposition, polymerization, reaction with water or self reaction

Personal Protection Code J: Gloves + Safety Goggles + Chemical Apron + Dust and Vapor Respirator

NFPA: National Fire Protection Association

Numeric Scale for Health (Blue), Fire Hazard (Red), and Reactivity (Yellow):
Special (White): None

NFPA Rating:*



RATING	HEALTH	FIRE HAZARD	REACTIVITY
0	Minimal Hazard	Will not burn	Normally Stable
1	Can cause significant irritation	Must be preheated to burn	Unstable at high temperatures
2	Can cause temporary incapacitation or residual injury	Ignites when moderately heated	Normally unstable. Can readily go under violent chemical reaction but do not detonate.
3	Can cause permanent injury.	Ignition occurs at normal temperature	Capable of detonation, or of explosive reaction, but requires a strong ignition source.
4	Can be lethal.	Extremely flammable	May explode at normal temperatures and pressures

Revision Date: January 14, 2015
Reason for Revision: Add necessary data to meet GHS requirements.

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