Sodium MBT 50% Liquid

Safety Data Sheet

NORTH Metal and Chemical Co.

1. Company Identification and Product Hazard Overview:

Product Name : Sodium Mercaptobenzothiazole 50%; 2(3H) - Benzothiazolethione

Synonyms : Sodium MBT 50%; Sodium Salt (Sodium 2-mercaptobenzothiazole); Benzothiazole

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:

Skin Corrosion (Category 1C)

Eye Damage (Category 1)

Acute Toxicity - Oral (Cat. 4), Dermal (Cat. 4), Inhalation (Cat. 4)

Signal Word: DANGER

Pictogram: Corrosive

Hazard Statements:

H302 : Harmful if swallowed
H332 : Harmful if inhaled
H314 : Causes severe skin burns and serious eye damage.
H318 : Causes serious eye damage

Precautionary Statements:

Prevention:

P260 + P261 : Do Not and Avoid breathing mist/vapors/spray
P264 : Wash contact area thoroughly after handling
P270 : Do not eat, drink, or smoke when using this product
P271 : Use only outdoors or in a well-ventilated area
P280 : Wear protective gloves/protective clothing/eye protection/face protection.
P303 + P353 +P363 : If ON SKIN or hair: rinse skin with water/shower. Wash contaminated clothing before reuse
P305 + P351 + P338 : If IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P330 + P331 : If SWALLOWED: Rinse Mouth. Do NOT induce vomiting
P304 + P340 : If INHALED: Remove person to fresh air and keep in position comfortable for breathing
P310 : Immediately call a doctor or physician if serious eye and skin damage develops.

Response & Storage:

P303 + P361 +P353 : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 : Wash contaminated clothing before reuse.
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301 + 312 : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P321 : Immediately call a doctor if you feel unwell.
P273 + P405 : Avoid release to the environment. Store Locked Up.
P501 : Dispose of contents/container in accordance with local/state/federal regulations.

3. Composition/Information on Ingredient:

Chemical Name : Sodium Mercaptobenzothiazole 50%

Chemical Family : Azoles.

Chemical Formula : $C_7H_5NNaS_2$

Substance:	CAS Number:	EC	Compo. (%)
Sodium 2-Mercaptobenzothiazole	2492-26-4	219-660-8	49 - 52 %
Water	7732-18-5	—	48 - 51%

4. First Aid Measures:

Eyes : Flush skin with running water for at least fifteen minutes. Remove any contact lenses. Get medical aid/ attention immediately.

Skin : Remove contaminated clothing. Wash skin with plenty of running water and soap. Get medical attention/ aid if irritation persists. Contaminated clothing should be thoroughly washed before reuse.

Ingestion : If the product is swallowed, first rinse mouth. Give small amount of water to drink. Call doctor/ physician/poison center immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person. If a person vomits, place him/her in recovery position so the vomit does not enter lungs.

Inhalation : If safe to do so, remove individual from further exposure. Keep warm and at rest. If breathing has ceased, give artificial respiration. Do not give mouth to mouth resuscitation. Get medical attention/ consult a physician immediately.

Note to Physician : Treat symptomatically.

PPE for first responders : Gloves and safety goggles are highly recommended.

5. Fire Fighting Measures:

Flash Point (°C) : > 220 °C

Flammable Limits : Not available.

Auto ignition Temp. : Not available.

Flammable Class : Not available.

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

Extinguishing Media : Carbon Dioxide, Chemical-type foam. Appropriate for the surrounding area. Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance : Carbon monoxide, carbon dioxide, nitrogen oxides. Oxidizing agents

Hazardous Combustion Products : None

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 airborne exposure is excessive. 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
Sodium Mercaptobenzothiazole 50%	2493-26-4	N/A	N/A	N/A	N/A

9. Chemical and Physical Properties:

Appearance	: Clear Liquid	**Evaporation Rate**	: < 1 (Butyl acetate = 1)
Odor	: Characteristic	**Lower Explosive Limit**	: Not available
Odor threshold	: Not available	**Upper Explosive Limit**	: Not available
Color	: Amber	**Vapor Pressure**	: 18 @ 20°C
pH	: 11.0 - 13.0 (10% solution)	**Vapor Density**	: Not available
Melting Point	: Not available	**Relative Density**	: 1.260 g/mL @ 20°C
Freezing Point	: -6°C to -14°C	**Solubility**	: Soluble in Water, methanol, ethanol and acetone
Boiling Range	: 103 °C	**Log P (octanol water)**	: Log K_{ow}: -0.46
Flash Point	: > 220 °C	**Auto Ignition Temp.**	: Not available
Viscosity (cSt) @ 25 °C	: 14.3		
Decomposition Temp.	: Not available		

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 Dioxide, carbon monoxide, 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} (RAT)	: 2,639 mg/kg
Dermal LD_{50} (RABBIT)	: > 7,940 mg/kg
Inhalation LC_{50} (RAT)	: 13.1 mg/L

Corrosion/Irritation:

Skin	: No data available
Eyes	: No data available

Sensitization:

Respiratory	: No data available.
Skin	: Not expected to be a skin sensitizer

Carcinogenicity: : This product and its components are not listed on OSHA, NIOSH, IARC, or NTP list as cancer-causing
Mutagenicity : Not expected to be mutagenic in humans
Reproductive Effects : Not expected to have reproductive effects
Teratogenic Effects : No data available.

Routes of Exposure : Eyes, Skin, Inhalation, Ingestion

Long Term Exposure Health Effects:

Eyes	: Can cause severe damage to the eyes if exposure if prolonged.
Skin	: Can cause significant irritation if exposure is prolonged.
Inhalation	: Can lead to coughing, nasal congestion, tightness of chest and /or shortness of breath.
Ingestion	: Can lead to possible nausea or vomiting.

RTECS: Not available

12. Ecological Information:

All work practices must be aimed at eliminating environmental contamination.

Biodegradability : P2 (moderate)

Bioaccumulative Potential : B1 **(**Low)

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 : S. gairdneri - LC_{50} 1.8 mg/L/96h
: Trout - LC50 > 1.3 - 2.1 mg/L

Aquatic Invertebrates: D. Magna - LC_{50} 19.0 mg/L/48h

Aquatic Plants : Algae - EC_{50} .4 mg/L/96h/cell count

Mobility in Soil : A low to moderate mobility in soil, leaching may occur in alkine 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	3267	Corrosive Liquids, BASIC, Organic, N.O.S. (Sodium 2-Mercaptobenzothiazole)	8	III	Corrosive Sticker

15. Regulatory Information:

U.S. Federal Regulations:
TSCA: All components of this product are listed on the TSCA inventory: 8(c)/40CFR 712 Preliminary Assessment Rule
8(d)/ Health and Safety Data Rule

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: Sodium 2-mercaptobenzothiazole: Immediate (Acute) health hazard. Delayed (chronic) health hazard
California Proposition 65: No components listed
EINECS: This product is on the European Inventory of Existing Commercial Chemical Sunstances 219-660-8

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	3
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	C

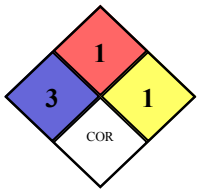
RATING	HEALTH	FIRE HAZARD	PHYSICAL HAZARD
0	No significant risk to	Will not burn	Product stable under ambient temperature
1	Can cause irritation or minor reversible injury.	Must be preheated to burn	Product can become unstable at high temperatures and pressures.
2	Can cause temporary or residual injury	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 C: Gloves + Safety Goggles + Chemical Apron

NFPA: National Fire Protection Association

Numeric Scale for Health (Blue), Fire Hazard (Red), and Reactivity (Yellow):
Special (White)

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: October 24, 2018
Reason for Revision: Updated component percentages in Section 3 and the physical/chemical properties in Section 9

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