

Material Safety Data Sheet

1. Product and company identification

Product name : NA-MERKAPTOBENZOTHIAZOL (NaMBT 50%)

Supplier/Manufacturer : LANXESS Corporation
Product Safety & Regulatory Affairs
111 RIDC Park West Drive
Pittsburgh, PA 15275-1112
USA

For information: US/Canada (800) LANXESS
International +1 412 809 1000

In case of emergency : Chemtrec (800) 424-9300
International (703) 527-3887
Lanxess Emergency Phone (800) 410-3063.

Material Number : 00077348

Chemical family : Benzothiazole derivative

2. Hazards identification

Physical state : Liquid.

Odor : Characteristic.

Color : Yellow. Brown.

Emergency overview : DANGER!

CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. MAY CAUSE ALLERGIC SKIN REACTION.

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Medical conditions aggravated by over-exposure : Pre-existing skin disorders may be aggravated by over-exposure to this product.

Potential acute health effects / Over-exposure signs/symptoms

Inhalation : Corrosive to the respiratory system.

Ingestion : Corrosive to the digestive tract. Causes burns.

Skin : Corrosive to the skin. Causes burns. May cause sensitization by skin contact.

Eyes : Corrosive to eyes. Causes burns.

Potential chronic health effects

Chronic effects : Once sensitized, an allergic skin reaction may occur with reddening, swelling, and rash when subsequently exposed to very low levels.

Carcinogenicity : No carcinogenic substances as defined by IARC, NTP and/or OSHA.

3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Mercaptobenzothiazole, Sodium Salt	2492-26-4	45 - 55

3. Composition/information on ingredients

4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Call physician immediately. In case of contact, flush eyes with plenty of water for at least 30 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated.
- Skin contact** : In case of contact, flush skin with plenty of water for at least 30 minutes. Call physician immediately. Immediately remove contaminated clothing and shoes. Wash clothing and shoes before reuse.
- Inhalation** : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing give artificial respiration using a pocket mask type resuscitator. Call physician immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting. If conscious, drink two glasses of water. Call physician immediately.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. Fire-fighting measures

Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Toxic and irritating gases/fumes may be given off during burning or thermal decomposition. Water runoff from fire fighting may be corrosive.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Do not breathe vapor or mist.
- Spill and Leak Procedures.** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contaminated absorbent material may pose the same hazard as the spilled product. Cover spill with inert material (e.g. dry sand or earth) and collect for proper disposal.

7. Handling and storage

- Handling** : Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

7. Handling and storage

- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not fill product into aluminium or zinc containers. Protect from freezing.
- Storage temperature:** : Store between the following temperatures: 5 to 40°C

8. Exposure controls/personal protection

No exposure limit value known.

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : General dilution and local exhaust as necessary to control airborne vapors, mists, dusts, and thermal decomposition products below appropriate airborne concentration standards/guidelines.
- Personal protection**
- Respiratory** : When high levels of vapors or aerosols are not controlled by local ventilation, respiratory protection is recommended. Recommended: A NIOSH approved air purifying respirator with organic vapor cartridges and particulate prefilter can be used to minimize exposure.
- Hands** : Chemical-resistant gloves. Recommended: Polyvinyl chloride - PVC nitrile rubber or Polychloroprene - CR Gloves After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations
- Eyes** : Chemical splash goggles or face shield.
- Skin** : Permeation resistant clothing and foot protection. Additional body garments should be used to avoid exposed skin surfaces (e.g. sleevelets, apron, disposable suit etc.), based on the task being performed.

9. Physical and chemical properties

- Physical state** : Liquid.
- Flash point** : Closed cup: >108°C (>226.4°F)
- Color** : Yellow. Brown.
- Odor** : Characteristic.
- Boiling/condensation point** : 107°C (224.6°F)
- Melting/freezing point** : -14°C (6.8°F)
- Density** : 1.26 g/cm³
- Vapor pressure** : 23 hPa (20°C)
- Viscosity** : Dynamic (room temperature): 27 mPa·s (27 cP)

10. Stability and reactivity

Chemical stability	: Under certain conditions the product can become unstable during storage and handling. See "Possibility of Hazardous Reactions" for further information.
Conditions to avoid	: If product is in contact with aluminium or zinc, even at room temperature, hydrogen is formed.
Materials to avoid	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Mercaptobenzothiazole, Sodium Salt	LD50 Dermal	Rabbit - Male, Female	>7940 mg/kg	-
Mercaptobenzothiazole, Sodium Salt	LD50 Oral	Rat - Male	2100 mg/kg	-

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Mercaptobenzothiazole, Sodium Salt	Chronic LOAEL Oral	Rat - Male, Female	150 to 250 mg/kg bw/day *	-

Conclusion/Summary : * MBT

Irritation/Corrosion

Skin : Mercaptobenzothiazole, Sodium Salt:Corrosive to the skin.

Eyes : Mercaptobenzothiazole, Sodium Salt:Risk of serious damage to eyes.

Sensitizer

Product/ingredient name	Route of exposure	Species	Result
Mercaptobenzothiazole, Sodium Salt	skin	Guinea pig	Sensitizing

Carcinogenicity

Product/ingredient name	CAS #	IARC	NTP	OSHA
Mercaptobenzothiazole, Sodium Salt	2492-26-4	Not classified.	Not classified.	Not classified.

Conclusion/Summary : Animal experiments showed a statistically significant number of tumours.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Mercaptobenzothiazole, Sodium Salt	OECD 487 <i>In vitro</i> Micronucleus Test *	Experiment: In vitro Subject: Mammalian-Animal	Negative
	Ames test NaMBT	Experiment: In vivo Subject: Bacteria	Negative

Conclusion/Summary : Mercaptobenzothiazole, Sodium Salt:*MBT

12. Ecological information

Aquatic ecotoxicity

<u>Product/ingredient name</u>	<u>Result</u>	<u>Species</u>	<u>Exposure</u>
Mercaptobenzothiazole, Sodium Salt	Acute EC50 0.71 mg/l *	Daphnia - Daphnia magna	48 hours
	Acute EC50 857 mg/l *	Micro-organism - activated sludge	3 hours
	Acute IC50 0.5 mg/l *	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute LC50 0.73 mg/l *	Fish - Oncorhynchus mykiss	96 hours
	Chronic EC50 0.33 mg/l *	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.08 mg/l *	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.041 mg/l *	Fish - Oncorhynchus mykiss	89 days

Conclusion/Summary : * MBT

Other ecological information

Persistence/degradability

<u>Product/ingredient name</u>	<u>Rate of degradation/elimination (%)</u>	<u>Period (days)</u>	<u>Test</u>
Mercaptobenzothiazole, Sodium Salt	2.5 %	14 days	OECD 301C Ready Biodegradability - Modified MITI Test (I)

<u>Product/ingredient name</u>	<u>Aquatic half-life</u>	<u>Photolysis</u>	<u>Biodegradability</u>
Mercaptobenzothiazole, Sodium Salt	-	50%; 0.35 day(s)	Not readily

Bioaccumulative potential

<u>Product/ingredient name</u>	<u>LogP_{ow}</u>	<u>BCF</u>	<u>Potential</u>
Mercaptobenzothiazole, Sodium Salt	2.42 EG A8	-	low

13. Disposal considerations

- Waste disposal** : Waste disposal should be in accordance with existing federal, state, provincial and/or local environmental controls. The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way.
- Empty Container Precautions.** : Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse container. Observe label precautions.
- RCRA classification** : : When discarded in its purchased form, this product meets the criteria of corrosivity, and should be managed as a hazardous waste (EPA Hazardous Waste Number D002). (40 CFR 261.20-24) 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)

14. Transport information

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN3267	CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (MERCAPTOBENZOTHAZOLE SODIUM SALT)	8	III	 	-
IMDG Class	UN3267	CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (MERCAPTOBENZOTHAZOLE SODIUM SALT)	8	III	 	Emergency schedules (EmS) F-A, S-B
IATA-DGR Class	UN3267	CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (MERCAPTOBENZOTHAZOLE SODIUM SALT)	8	III	 	Passenger aircraft 852: 5 L Cargo aircraft 856: 60 L

PG* : Packing group

RQ : 0 lbs

15. Regulatory information

HAZCOM Standard Status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SARA Section 311/312 Hazard Categories : Immediate (Acute) Health Hazard

	<u>Ingredient name</u>	<u>CAS number</u>	<u>Concentration (%)</u>
SARA Title III Section 302 Extremely Hazardous Substances	: None		

	<u>Ingredient name</u>	<u>CAS number</u>	<u>Concentration (%)</u>
SARA Title III Section 313 Toxic Chemicals	: None		

	<u>Ingredient name</u>	<u>CAS number</u>	<u>RQ</u>
US EPA CERCLA Hazardous Substances (40 CFR 302)	: None		

State regulations

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

<u>Ingredient name</u>	<u>CAS number</u>	<u>State Code</u>	<u>Concentration (%)</u>
Water	7732-18-5		45 - 55
Mercaptobenzothiazole, Sodium Salt	2492-26-4		45 - 55

15. Regulatory information

Massachusetts Substances: MA - S
Massachusetts Extraordinary Hazardous Substances: MA - Extra HS
New Jersey Hazardous Substances: NJ - HS
Pennsylvania RTK Hazardous Substances: PA - RTK HS
Pennsylvania Special Hazardous Substances: PA - Special HS

California Prop. 65

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

U.S. Toxic Substances Control Act : Listed on the TSCA Inventory.

16. Other information

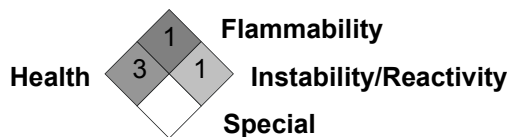
Hazardous Material Information System

Health	3
Flammability	1
Physical hazards	1

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme
*=Chronic

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



0= Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

LANXESS' method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS as a customer service.

Contact person : Product Safety and Regulatory Affairs
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☑ Indicates information that has changed from previously issued version.

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