



## MERCHEM LIMITED

### SAFETY DATA SHEET

MERCURE MBT (Uncoated)  
MSDS No. 02/20.03.2015

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

### 1.1 Product Identifier

Product Name Mercure MBT  
Synonym MBT, Benzothiazole-2-thiol

### 1.2 Use of the Substance/Mixture

Identified uses Rubber vulcanization accelerator

### 1.3 Manufacturer or supplier's details

Company/Undertaking identification address Merchem Limited  
Grove Centre,  
44- Development Plot,  
Kalamassery,  
Cochin – 683 109, Kerala, India  
Telephone + 91-484-4089300  
Telefax + 91-484-4089310

### 1.4 Emergency Telephone Number

Emergency Telephone Number + 91-484-4089300

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### Classification as per Regulation (EC) n.1272/2008

Skin sensitizer Cat. 1

Acute aquatic Cat. 1

Chronic aquatic Cat. 1

#### Classification as per Dir 67/548/EEC or 1999/45/EC

Xi Irritant

N

R43

R50/53

**EC Number:** 205-736-8

**Annex 1 Index Number:** 613-108-00-3



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#### 2.2 Label elements

**Product Name:**

Mercure MBT

**Hazard pictograms**



**Signal Word** : warning

#### **Hazard statements**

H317 May cause an allergic skin reaction  
H410 Very toxic to aquatic life with long lasting effects.

#### **Precautionary statements-Prevention**

P262 Avoid contact with the skin, eyes and clothing.  
P280 Wear protective gloves / clothing / eye / face protection.  
P273 Avoid release to the environment

#### **Precautionary statements-Prevention**

P302 +P352 IF ON SKIN: Wash with plenty of soap and water  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention  
P391 Collect spillage. Hazardous to the aquatic environment

#### **Precautionary statement – Storage**

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
P405 - Store locked up

#### **Precautionary statements-Disposal**

P501 Dispose of contents/container in accordance with national regulations.

#### 2.3 Other hazards

#### **PBT and vPvB assessment**

The product does not meet the criteria to be considered PBT or vPvB.

#### **Other hazards which do not result in classification**

The potential of creating an explosive dust cloud exists.

**Note : For the full text of the R phrases, S phrases, and symbols mentioned in this Section, see Section 16**



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#### 3.1 Substances

**Chemical description:** 2-Mercaptobenzothiazole

#### **Composition/Information on ingredients**

Chemical Name	CAS No.	EC No.	Annex-1 Index No.	Weight %
2-Mercaptobenzothiazole	149-30-4	205-736-8	613-108-00-3	> 95

#### 3.2 Mixtures

Not applicable. Substance is not a mixture

### SECTION 4: FIRST AID MEASURES

#### 4.1 Description of first-aid measures

**Inhalation:**

Move the affected person to fresh air. If breathing is difficult, give oxygen and seek immediate medical attention.

**Ingestion:**

Seek immediate medical attention. Do not induce vomiting unless told to do so by a poison control centre or doctor. Never administer anything by mouth to an unconscious person.

**Contact with the skin:**

Remove contaminated clothing and thoroughly wash the affected parts of the body with soap and water. Seek medical attention if irritation persists. Wash contaminated clothing thoroughly before reuse.

**Contact with the eyes:**

Flush immediately with plenty of water for at least 15 min. holding the eyelids open. Seek medical attention if irritation persists after washing. Remove contact lenses immediately if worn, unless they have adhered to eyes.

**Notes to Physician:**

Provide supportive care and treatment based on the patient's reactions. Give special attention to breathing difficulties

### SECTION 5: FIRE FIGHTING MEASURES

#### 5.1 Extinguishing media

**Suitable extinguishing media:**

Use water spray, carbon dioxide, foam or dry powder



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#### 5.2 Specific hazards arising from the substance or mixture

##### Specific hazards

Combustible material  
Dust may form explosive mixture in air  
Heating can release hazardous gases:  
(carbon monoxide and dioxide, oxides of sulphur and  
of nitrogen).

##### Specific methods

Cool containers / tanks with water spray  
Keep product and empty container away from heat and  
sources of ignition  
Do not flush into surface water or sanitary sewer  
system  
Prevent product from entering drains  
Collect contaminated fire extinguishing water  
separately. This must not be discharged into drains

#### 5.3 Protective Equipment and Precautions for Firefighters

##### Protective equipment

Fire-fighting personnel must wear approved protective clothing for fire fighting and self-contained breathing apparatus. Fight fire from a safe distance and from a protected location.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

- Avoid direct contact with the product and inhalation of vapours from the hot product.
- Keep nonessential personnel away. Ventilate closed spaces before entering.
- Use of safety goggles, gloves and protective clothing of a suitable material.
- Use of respiratory protective mask with filter in the presence of dust and self-contained breathing apparatus in the presence of vapours from the hot product.

#### 6.2 Environmental precautions

- Avoid discharge to sewers and public waterways.
- The product may cause long term adverse effects to the aquatic environment.

#### 6.3 Methods and materials for containment and cleaning up

- Solid spillages are collected with shovels or other means and placed into sealed plastic bags or drums for later recycling or managed as waste.

#### 6.4 Reference to other sections

- See section 7,8 & 13



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## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

- Do not eat, drink or smoke while handling the product.
- Use appropriate protective equipment to avoid direct contact or inhalation of the product and avoid generating dust.
- Eliminate all ignition sources in the material handling area: sparks, flames, static electricity and other heat sources.
- Avoid contact with the skin, eyes and clothing.
- Reseal containers containing unused product.
- Wash hands with a neutral soap after handling work has finished.
- Handle the product in areas with efficient ventilation systems.

### 7.2 Conditions for safe storage, including any incompatibilities

- Store the product in a cool, dry, well-ventilated area.
  - Stored in locations equipped with fire fighting equipment.
  - Incompatible Materials: Strong reducing agents, oxidizers, strong acids and alkalis.

### 7.3 Specific end uses

No further relevant information available.

## SECTION 8: EXPOSURE CONTROL/PERSONNEL PROTECTION

### 8.1 Control parameters: Particulates not otherwise classified (PNOC):

- Inhalable particulate: 10 mg/m<sup>3</sup>
- Respirable particulate: 3 mg/m<sup>3</sup>

#### DNELs calculated for workers

- Acute dermal: 40 mg/kg body weight/day
- Acute Inhalation: 70.4 mg/m<sup>3</sup>
- Chronic dermal: 5 mg/kg body weight/day
- Chronic Inhalation: 8.8 mg/m<sup>3</sup>

The product is a moderate skin sensitizer for which has not been possible to establish a dose response relationship.

### 8.2 Exposure controls

#### Engineering controls:

Ensure adequate ventilation and extraction systems in the workplace. Have eye wash systems and showers in the workplace.

#### Personal protective equipment:

#### Eye/face Protection:

Tightly fitting safety goggles . Full-face protective mask



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**Skin Protection:**

with filter.

Gloves (rubber, neoprene). Long sleeve overall and appropriate footwear to avoid contact with skin.

**Hand Protection:**

The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. The suitability for a specific workplace should be discussed with the producers of the protective gloves

**Respiratory Protection:**

Full-face protective mask with filter.

**Environmental exposure controls:**

Prevent product from entering drains  
Do not contaminate surface water .  
Avoid subsoil penetration

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	Solid light cream colour
<b>Vapour pressure</b>	1.35*10 <sup>-9</sup> hPa at 25°C
<b>Odour</b>	Slightly aromatic
<b>Vapour density</b>	NA
<b>pH</b>	NA
<b>Relative density:</b>	1.54 g/cm <sup>3</sup>
<b>Melting point</b>	164-179 °C
<b>Solubility in water</b>	0.27 - 0.37 mg/l at 21°C and pH 7
<b>Boiling point</b>	Decomposes before boiling
<b>Partition coefficient n-octanol/water</b>	Log Pow: 4.5 at pH 7
<b>Flash point</b>	>250°C ( Cleveland Open Cup )
<b>Autoignition temperature</b>	440 - 460°C ( for powder )
<b>Evaporation rate</b>	NA
<b>Decomposition temp.</b>	> 240°C
<b>Flammability:</b>	Non-flammable
<b>Viscosity</b>	NA
<b>Combustion properties:</b>	NA
<b>Explosive properties</b>	Explosion class: St2 Kst: 195-283 bar.m/s Lower explosive limit: 30 – 40

### 9.2 Other information

No data available .



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## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

- See Incompatible Materials

### 10.2 Chemical Stability

- Stable under recommended storage and handling conditions (See section 7)

### 10.3 Possibility of hazardous reactions

- See Incompatible Materials

### 10.4 Conditions to Avoid

- Avoid dust formation
- Keep away from heat and sources of ignition
- Take precautionary measures against static discharges

### 10.5 Incompatible materials to avoid

- Strong acids and alkalis.
- Oxidizing agents

### 10.6 Hazardous Decomposition Products

- Through thermal decomposition ( $T > 250^{\circ}\text{C}$ ) it may generate amines (aniline), hydrogen sulphide and by-products of mercaptans.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

<b>Acute oral toxicity</b> (LD50/oral/rat):	> 7,940 mg/kg
<b>Acute dermal toxicity</b> (LD50/dermal/rabbit):	> 7,940 mg/kg
<b>Acute inhalational toxicity</b> (LC50/inhalation/4h/rat):	No data available.
<b>Eye irritation:</b>	May cause slight irritation to the eyes but not enough to be classified as an irritant.
<b>Skin irritation/Sensitization:</b>	Non irritant. Tests conducted on rabbits and human volunteers indicate that the product is not irritating to the skin, however it can cause sensitization and allergic reaction on the skin as shown by tests done on guinea pigs.
<b>Ingestion:</b>	The product is slightly toxic if ingested. Even after ingesting large amounts of product, this is



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**Mutagenic Effects:**

not expected to cause significant health problems. Product metabolism studies with rats indicate that over 50% is excreted in the urine within 24 hours. 100% is eliminated in 96 hours.

**Reproductive toxicity:**

Not mutagenic in tests done in vitro and in vivo.

**Carcinogenic effects:**

No evidence of teratogenicity in animal studies using rats, mice and hamsters.

Negative in standard in vitro tests. Neither the product or any of the impurities/additives present in amounts exceeding 0.1% have been classified by NTP, IARC or OSHA as a carcinogen or suspected carcinogen.

**Target Organ Effects :**

Eyes, respiratory tract / Inhalation, contact.

**Medical conditions aggravated by exposure :**

Skin and lung diseases. The product or its emissions during use may cause sensitization effects or allergic reactions in susceptible individuals that may aggravate pre-existing systemic diseases.

### SECTION 12: ECOLOGICAL INFORMATION

#### 12.1 Ecotoxicity

Component information:

Active ingredient

Toxicity to fish:

96h-LC50 (Lepomis macrochirus): 82 mg/l

96h-LC50 (Oncorhynchus mykiss): 66 mg/l

96h-LC50 (Pimephales promelas): >1,000 mg/l/LC50 :

0.0097 -

1.70 mg/L

EC50/48h/daphnia magna:

82 mg/l

EC50/96h(Selenastrum capricornutum)/algae:

0.7 mg/l

Toxicity to bacteria:

IC50 : 19.20 mg/l

#### 12.2 Mobility in soil

Minimum

#### 12.3 Persistence and degradability

Abiotic: The product is degraded by hydrolysis (37 % in 7 days at pH 7) and photolysis (breakdown by photolysis in water: 50 % in 3.1 h).

Biotic: Product not readily biodegradable.





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#### **12.4 Bioaccumulative Potential**

The tests performed with the material indicate that the product is not bioaccumulative (BCF<51).

#### **12.5 Results of PBT and vPvB assessment**

The product does not meet the criteria to be considered PBT or vPvB.

#### **12.6 Other adverse effects**

None known based on information supplied

#### **12.7 Other information**

Do not discharge product unmonitored into the environment

### SECTION 13: DISPOSAL CONSIDERATIONS

#### **13.1 Waste Disposal Method**

##### **Product**

Recycle the product whenever possible. If reuse is not possible, dissolve or mix the material with a combustible solvent and burn in an incinerator equipped with an appropriate gas treatment system.

In any case, avoid discharge into the environment in an uncontrolled way.

##### **Packing**

Manage contaminated containers as dangerous waste under the laws of the country concerned. Use properly sealed and labelled containers. Used containers should be handled so as not to generate dust during collection, transportation and final disposal.

### SECTION 14: TRANSPORT INFORMATION

#### **14.1 Road transport (ADR/RID/ADN)**

<b>ADR/RID Class</b>	9
<b>UN-No</b>	3077
<b>Packing Group</b>	III
<b>Hazardous label</b>	Hazardous for the environment
<b>Proper Shipping Name</b>	Environmentally hazardous substance, solid, N.O.S (2- Mercaptobenzothiazole)



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#### 14.2 Sea transport (IMDG)

ADR/RID Class	9
UN-No	3077
Packing Group	III
Marine pollutant	Yes
Hazardous label	Hazardous for the environment
Proper Shipping Name	Environmentally hazardous substance, solid, N.O.S (2- Mercaptobenzothiazole)

#### 14.3 Air transport (ICAO-TI/IATA)

ADR/RID Class	9
UN-No	3077
Packing Group	III
Proper Shipping Name	Environmentally hazardous substance, solid, N.O.S (2- Mercaptobenzothiazole)

#### 14.4 Other information

No data available

#### 14.5 Environmental hazards

Information on environmental hazards, if relevant, pls. see 14.1 - 14.3.

#### 14.6 Special precautions for user

No data available

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant.

## SECTION 15: REGULATORY INFORMATION

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation 1907/2006 REGULATION (EC) No 1272/2008  
Classification according to EU directives 67/548/EEC or 1999/45/EC

#### 15.2 Chemical Safety Assessment

No data available



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#### SECTION 16: OTHER INFORMATION

Issue No. 2  
Issue date : 20.03.2015  
Revision No. 0

Reason for revision: Reviewed & revamped based on the guide lines of Regulation (EC) No 1907/2006

#### List of relevant R(isk)-phrase(s)

- R43 - May cause sensitization by skin contact
- R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

#### List of relevant S(afety) phrase(s)

- S22 - Do not breathe dust .
- S24 – Avoid contact with skin.
- S28 - After contact with skin, wash immediately with plenty of soap and water
- S36/37/39 – Wear suitable protective clothing, gloves and eye/-face protection
- S45 - In case of accident or in case you feel unwell, seek medical advice immediately
- S60 - This material and its container must be disposed of as hazardous waste
- S61 - Avoid release to the environment. Refer to special instructions/safety data sheets

#### Classification of dangerous substance directive (67/548/EEC)

- N - Substances or preparations those are dangerous for the environment
- Xi - Irritants

#### Training advice

Provide adequate information, instruction and training to operators

#### Further information for the material safety data sheet

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.

**End of Material Safety Data Sheet**