



## MERCHEM LIMITED

### SAFETY DATA SHEET

MERCURE MBTS  
MSDS No. 03/20.03.2015

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

### 1.1 Product Identifier

Product Name	Mercure MBTS
Synonym	2,2'-Dibenzothiazolyl Disulfide, 2 mercaptobenzothiazole disulfide

### 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
Email	mail@merchem.com

### 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 Dir 67/548/EEC

Xi  
N  
R50/53  
R43

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

Skin sensitizer Cat. 1  
Acute aquatic Cat. 1  
Chronic aquatic Cat 1

EC Number: 204-424-9

Annex 1 Index Number: 613-135-00-0



## MERCHEM LIMITED

### SAFETY DATA SHEET

MERCURE MBTS  
MSDS No. 03/20.03.2015

#### 2.2 Label elements

**Product Name:**

Mercure MBTS

**Hazard pictograms**



**Signal Word**

Warning

**Hazardous statements** H317: May cause an allergic skin reaction  
H410: Very toxic to aquatic life with long lasting effects.  
EUH031: Contact with acids liberates toxic gas.

**Precautionary statement – Prevention**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P273 - Avoid release to the environment

**Precautionary statement – Response**

P352 Wash with plenty of soap and water.  
P302 +P352 - IF ON SKIN: Wash with plenty of soap and water  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention  
P363 - Wash contaminated clothing before reuse  
P391 - Collect spillage

**Precautionary statement – Storage**

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

**Precautionary statement**

**– disposal**

P501 Dispose of contents/container to an approved incineration plant.

#### 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**



## MERCHEM LIMITED

### SAFETY DATA SHEET

MERCURE MBTS  
MSDS No. 03/20.03.2015

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Not applicable

#### 3.2 Mixtures

Chemical description:

2,2'-Dibenzothiazolyl Disulfide

Composition/Information on ingredients

Chemical Name	CAS No.	EC No.	Annex-1 Index No.	Weight %
2,2'-Dibenzothiazolyl Disulfide	120-78-5	204-424-9	613-135-00-0	> 95
White mineral oil	8042-47-5	-	-	1-2

### SECTION 4: FIRST AID MEASURES

#### 4.1 Description of first-aid measures

##### General Advice

If symptoms persist, call a physician. Show this material safety data sheet to the doctor in attendance. Treat symptomatically. Use of alcoholic beverages may enhance toxic effects. In case of allergic reaction after exposure, any future exposure must be avoided

##### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes Remove contact lenses Obtain medical attention.

##### Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Thoroughly clean shoes before reuse. If skin irritation persists, call a physician

##### Inhalation

Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. Immediate medical attention is required

##### Ingestion

Clean mouth with water and afterwards drink plenty of water. Do not induce vomiting. Treat symptomatically. If swallowed, seek medical advice immediately and show this container or label. Loosen tight clothing such as collar, tie, belt and waistband.

##### Notes to Physician:

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

#### 4.2 Most important symptoms and effects, both acute and delayed

- eye irritation
- Irritating to respiratory system
- May cause sensitization by skin contact



## MERCHEM LIMITED

### SAFETY DATA SHEET

MERCURE MBTS  
MSDS No. 03/20.03.2015

#### **4.3 Indication of immediate medical attention and special treatment needed**

- No data available

### SECTION 5: FIRE FIGHTING MEASURES

#### **5.1 Extinguishing media**

**Suitable extinguishing media:** Use water spray, carbon dioxide, foam or dry powder

**Special recommendations** Fight fire from a safe distance and from a protected location. Use water spray to cool surfaces exposed to the fire. Avoid the presence of airborne dust because it is combustible. Avoid discharge into drains or watercourses.

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

If the product burns, it emits toxic gases (carbon monoxide and dioxide, oxides of sulphur and of nitrogen).

#### **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.

### 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



## MERCHEM LIMITED

### SAFETY DATA SHEET

MERCURE MBTS  
MSDS No. 03/20.03.2015

## 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. Store protected from direct sunlight and away from strong oxidizers.

Stored in locations equipped with fire fighting equipment.

Incompatible Materials: 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

**Occupational exposure limit values**

No data available

### 8.2 Exposure controls

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 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.

**Engineering controls :** Ensure adequate ventilation and extraction systems in the workplace. Have eye wash systems and showers in the workplace.



## MERCHEM LIMITED

### SAFETY DATA SHEET

MERCURE MBTS  
MSDS No. 03/20.03.2015

#### Personal protective equipment

#### Respiratory Protection

Full-face protective mask with filter.

#### Eye/face Protection

Approved safety goggles

#### Skin Protection

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

#### Hygiene measures in the workplace

Shower with hot water and soap at the end of the day. Do not use solvents for cleaning the body. Both clothing and equipment should be changed frequently and dry cleaned, check the condition of the gloves to avoid internal contamination and discard if signs of cuts or holes are detected. Use skin creams after work.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

11 Physical State	Solid powder
12 Color	Pale yellow
Odor	Slightly aromatic
Boiling point/Range	Decomposes before boiling
Melting point/Range	160-170°C
Flash Point	>250°C ( Cleveland Open Cup )
Flammability	Non-flammable
Auto-ignition temperature	440 - 460°C ( for powder )
Explosive properties	Explosion class: St2 Kst: 195-283 bar.m/s Lower explosive limit: 30 – 40 g/m3
Vapor pressure	1.35*10 <sup>-9</sup> hPa at 25°C
Specific gravity	1.45-1.55
Bulk density	450-550 Kg/M3
Solubility in water	Practically insoluble
Solubility in other solvents	Acetone, alcohol, benzene, Chloroform
pH	No data available
Partition coefficient (n-Octanol-water)	Log Pow: 4.5 at pH 7
Relative vapor density	No data available
Viscosity	No data available
Decomposition temp.	> 240°C

#### 9.2 Other information

No data available



## MERCHEM LIMITED

### SAFETY DATA SHEET

MERCURE MBTS  
MSDS No. 03/20.03.2015

#### SECTION 10: STABILITY AND REACTIVITY

##### 10.1 Reactivity

See Incompatible Materials

##### 10.2 Chemical Stability

The product is stable when stored at room temperature in its original packaging. Stable under normal conditions of use, handling and transport

##### 10.3 Possibility of hazardous reactions

See Incompatible Materials

##### 10.4 Conditions to Avoid

Keep away from heat sources, sparks and flames.

##### 10.5 Incompatible materials to avoid

Oxidizing agents, strong acids and alkalis. In particular, contact with strong acids may generate toxic gases ( H<sub>2</sub>S and/or SO<sub>2</sub> )

##### 10.6 Hazardous Decomposition Products

Through thermal decomposition (T> 250°C) it may generate amines (aniline), hydrogen sulphide and by-products of mercaptans. In case of combustion see section 5.

#### SECTION 11: TOXICOLOGICAL INFORMATION

##### 11.1 Information on toxicological effects

**Acute oral toxicity LD50 (mg/kg)** > 7,940 mg/kg (rat)

**Acute dermal toxicity LD50 (mg/kg)** > 7,940 mg/kg (rabbit)

**Organs affected/routes of**

**Exposure**

Eyes, respiratory tract / Inhalation, contact.

**Ingestion**

The product is slightly toxic if ingested. Even after ingesting large amounts of product, this is 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 (around 80% in urine and 20% in faeces).

**Skin contact**

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.



## MERCHEM LIMITED

### SAFETY DATA SHEET

MERCURE MBTS  
MSDS No. 03/20.03.2015

<b>Inhalation</b>	May cause mild irritation of the upper respiratory tract (mouth, nose and throat). Symptoms may include pain in the nose and throat, coughing and sneezing repeatedly.
<b>Eye contact</b>	May cause slight irritation to the eyes but not enough to be classified as an irritant.
<b>Medical conditions aggravated by exposure</b>	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.
<b>Carcinogenicity</b>	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.
<b>Genotoxicity</b>	Not mutagenic in tests done in vitro and in vivo.
<b>Reproductive toxicity</b>	No evidence of teratogenicity in animal studies using rats, mice and hamsters.

## SECTION 12: ECOLOGICAL INFORMATION

### **12.1 Ecotoxicity**

**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  
**Toxicity to algae:** 96h-IC50 (*Selenastrum capricornutum*): 0.7 mg/l  
**Toxicity to invertebrates:** 48h-EC50 (*Daphnia magna*): 82 mg/l

### **12.2 Mobility in soil**

No data available

### **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.

### **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**

No data available

### **12.7 Other information**

Do not discharge product unmonitored into the environment





MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE MBTS  
MSDS No. 03/20.03.2015

**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1 Waste Disposal Method**

**For the 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 as dangerous waste under the laws of the country concerned.

**SECTION 14: TRANSPORT INFORMATION**

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

ADR/RID Class	9
UN-No	3077
Packing Group	III
Hazardous label	Hazardous for the environment
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S

**14.2 Sea transport (IMDG)**

Class	9
UN-No	3077
Packing Group	III
Marine pollutant	Yes
Hazardous label	Hazardous for the environment
EMS	F-A, S-F
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S



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

Class	9
UN-No	3077
Packing Group	III
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S

**14.4 Other information**

No data available

**14.5 Environmental hazards**

Information on environmental hazards , 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



## MERCHEM LIMITED

### SAFETY DATA SHEET

MERCURE MBTS  
MSDS No. 03/20.03.2015

#### 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

##### **Other regulations:**

The product is listed in the following inventories:  
USA (TSCA), Canada (DSL), EU (EINECS), Japan (ENCS), Korea (ECL),  
Australia (AICS), New Zealand (NZ), Philippines (PICCS), China (CLECS).  
Regulated for rubber articles intended for repeated use in contact with food, as per  
US FDA 21 CFR 177.2600  
France order 9/11/94  
Regulated as a component of adhesives according to U.S. FDA 21 CFR 175.105.  
Product covered by Seveso Directive. Category 9i

##### **15.2 Chemical Safety Assessment**

No data available

#### 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

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

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

##### **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**