



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE TBBS
MSDS No. 11/20.03.2015

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

1.1 Product Identifier

Product Name	Mercure TBBS
Synonym	N-tert-Butyl-2-Benzothiazolesulfenamide Benzothiazyl-2-tertiary-butyl sulphenamide

1.2 Use of the Substance/Mixture

Identified uses	Accelerator for rubber vulcanization
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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
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SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to EU directives 67/548/EEC or 1999/45/EC

Xi
N
R50/53
R43

REGULATION (EC) No. 1272/2008

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

EC Number: 202-409-1

Annex 1 Index Number: Not available



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2.2 Label elements

Product Name:

Mercure TBBS

Hazard pictograms



Signal word

Warning

Hazard statement

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

Precautionary statement – Prevention

P261 Avoid breathing dust/fume/gas/mist/vapours/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

P302 +P352 - IF ON SKIN: Wash with plenty of soap and water
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P321 - Specific treatment (see supplemental first aid instructions on this label)
P363 - Wash contaminated clothing before reuse
P391 - Collect spillage

Precautionary statement – Storage

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

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

No information available

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



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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable .

3.2 Mixtures

Chemical description: N-tert-Butyl-2-Benzothiazolesulfenamide (active ingredient)

Composition/Information on ingredients

Chemical Name	CAS No.	EC No.	Annex-1 Index No.	Weight %
N-tert-Butyl-2-Benzo-thiazolesulfenamide	95-31-8	202-409-1	Not available	>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. In case of allergic reaction after exposure, any future exposure must be avoided. Provide supportive care and treatment based on the patient's reactions. Give special attention to breathing difficulties.

Eye Contact

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.

Skin Contact

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

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.

4.2 Most important symptoms and effects, both acute and delayed

- Repeated or prolonged exposure may cause skin sensitization. Symptoms: reddening, swelling and itching. Inhalation may result in respiratory tract irritation and contact with the eyes may cause irritation. The product exhibits low toxicity when ingested and this route is easily avoided and not frequent.
- For the environment: May cause long term adverse effects in the aquatic environment.



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4.3 Indication of immediate medical attention and special treatment needed

- No information available

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

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

Extinguishing media which must not be used for safety reasons: High volume water jet

5.2 Specific hazards arising from the substance or mixture

Specific hazards Combustible material
Dust may form explosive mixture in air
Heating can release noxious and toxic gases:
Carbon monoxide
Sulphur oxides
Nitrogen oxides (NOx)

Specific methods 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

Wear full protective clothing and self-contained breathing apparatus

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- Avoid contact with skin, eyes and clothing
- Evacuate personnel to safe areas
- Keep people away from and upwind of spill/leak
- Wear respiratory protection
- Wear suitable protective clothing, gloves and eye/face protection
- Ventilate closed spaces before entering

6.2 Environmental precautions

- Prevent product from entering drains
- Do not flush into surface water or sanitary sewer system



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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

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.
- Handle the product in areas with efficient ventilation systems.
- Wash hands with a neutral soap after handling work has finished.
- Remove contaminated clothing and protective equipment before entering eating areas

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.
- At temperatures above 40°C and/or in high humidity conditions the product gradually decomposes emitting irritant vapours (tert-Butylamine).
- Incompatible Materials: Strong reducing agents, oxidizers, strong acids and alkalis.

7.3 Specific end uses

No further relevant information available.



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SECTION 8: EXPOSURE CONTROL/PERSONNEL PROTECTION

8.1 Control parameters

Occupational exposure limit values :	Particulates not otherwise classified (PNO): Inhalable particulate: 10 mg/m ³ Respirable particulate: 3 mg/m ³
DNELs calculated for workers:	Acute dermal: 534 mg/kg body weight/day Acute Inhalation: 14 mg/m ³ Chronic dermal: 67 mg/kg body weight/day Chronic Inhalation: 14 mg/m ³ 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. Avoid dust generation. Ensure good ventilation and Local exhaustion of the working area
Personal Protective Equipment:	
Eye/face Protection	Approved safety goggles or Face-shield
Skin Protection	Gloves (rubber, PVC, polychloroprene). Long sleeve overall and appropriate footwear to avoid contact with skin.
Respiratory	Full-face protective mask with filter
Eye	Approved safety goggles
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

Physical State	Powder/Pellets
Color	off-white to grayish white
Odor	Characteristic of amine
Boiling point/Range	Decomposes before boiling
Melting point/Range	105 – 107°C
Flash Point	165°C (Cleveland open cup)



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Flammability	Not readily flammable
Auto-ignition temperature	340 – 380°C
Explosive properties	Explosion class: St2 Kst: 171-273 bar.m/s Lower explosive limit: 20 g/m ³ Minimum ignition energy:<3mJ
Oxidizing properties	No data available
Vapor pressure	2.1*10 ⁻⁶ hPa at 25°C
Relative density	1.29 g/cm ³
Bulk density at 20°C	NA
Solubility in water	1.74 mg/l at 20°C and pH 7.6
Solubility in other solvents	Acetone, alcohol
pH	NA
Partition coefficient (n-Octanol-water)	Log Pow: 3.36 at 25°C and pH
Vapor density	2.1*10 ⁻⁶ hPa at 25°C
Viscosity	Not applicable

9.2 Other information

No data available

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. (See section 7). When the product gets wet, it slowly decomposes releasing tert-butylamine vapours

10.3 Possibility of hazardous reactions

- See Incompatible Materials

10.4 Conditions to Avoid

- Keep away from heat sources, sparks and flames. Also avoid contact with sources of moisture

10.5 Incompatible materials to avoid

- Oxidizing agents, strong acid and alkalis

10.6 Hazardous Decomposition Products

- Thermal decomposition generates amines (tert-Butylamine, aniline) and derivatives of a sulphurous nature. In case of combustion see section 5.



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SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity (LD50/oral/rat):	6310 mg/Kg
Acute dermal toxicity (LD50/dermal/rabbit):	>7940 mg/Kg
Organs affected/routes of exposure:	Eyes, respiratory tract, skin / inhalation, contact.
Ingestion:	While the product is slightly toxic by ingestion, discomfort and/or adverse effects may result from the ingestion of relatively large amounts of product.
Contact with the skin:	The product is mildly irritating to the skin. Symptoms: reddening, swelling and rashes. May from the ingestion of relatively large amounts of product.
Contact with the skin:	The product is mildly irritating to the skin. Symptoms: reddening, swelling and rashes. May cause an allergic skin reaction.
Inhalation:	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.
Contact with the eyes:	May cause slight irritation to eyes with symptoms typical of conjunctivitis: reddening, swelling, pain and tears
Medical conditions aggravated by exposure:	Skin and lung diseases. Haematological problems and liver and/or kidney disease. The product or its emissions during use may cause sensitization effects or allergic reactions that may aggravate pre-existing systemic diseases
Carcinogenicity:	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.
Genotoxicity:	Negative for genetic activity for in vitro and in vivo tests using mammalian cells.
Reproductive toxicity:	No evidence of teratogenicity in animal studies using rats, mice and hamsters]



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Other information of interest:

The product generates amine vapour during the vulcanization process which can cause respiratory sensitization, in eyes and skin.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Component information:	Active ingredient
Toxicity to fish:	96h-LC ₅₀ (Lepomis macrochirus): 1.2 mg/l 96h-LC ₅₀ (Oncorhynchus mykiss): 1.6 mg/l 96h-LC ₅₀ (Pimephales promelas): 21 mg/l
Toxicity to algae:	NOEC (72h) (Scenedesmus capricornutum): 0.023 mg/l
Toxicity to invertebrates:	48h-EC ₅₀ (Daphnia magna): >100 mg/l

12.2 Mobility in soil

Not known

12.3 Persistence and degradability

The product is rapidly degraded by hydrolysis, but not readily biodegradable

The tests performed with the material indicate that the product is not persistent

12.4 Bioaccumulative Potential

The tests performed with the material indicate that the product is not bioaccumulative (BCF < 20).

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 allow product to reach ground water, water course or sewage system. Also, poisonous for fish and plankton in water bodies. Toxic for aquatic organisms. Do not allow product to reach ground water, water course or sewage system, even in small quantities.



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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.
- Dispose of in accordance with local regulations
- In any case, avoid discharge into the environment in an uncontrolled way.

Packing

- Contaminated packaging should be treated as for the substance/preparation. 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)

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

14.2 Sea transport (IMDG)

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



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

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

Product contains environmentally hazardous substances: N-tert-Butyl-2-Benzothiazolesulfenamide
Information on environmental hazards , pls. see 14.1 - 14.3.

14.6 Special precautions for user

Warning: Miscellaneous dangerous substances and articles

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

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 .

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

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

- Xi - Irritant
- N- Dangerous for the environment
- R43: May cause sensitisation by skin contact.
- R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic 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