



## MERCHEM LIMITED

### SAFETY DATA SHEET

MERCURE DCBS  
MSDS No. 10/20.03.2015

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

### 1.1 Product Identifier

Product Name Mercure DCBS  
Synonym Benzothiazyl-2-N,N-dicyclohexyl sulfonamide.  
N,N'-Dicyclohexyl-2-Benzothiazolesulfenamide

### 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  
E mail mail@merchem.com

### Emergency Telephone Number

Emergency Telephone Number + 91-484-4089300

## SECTION 2: HAZARDS IDENTIFICATION

### Classification as per Directive 67/548/EEC

Xi Irritant (R43)  
N Dangerous for the environment  
R50/53

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

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

EC Number: 225-625-8

Annex 1 Index Number: No data available

### 2.2 Label elements

Product Name: Mercure DCBS

Hazard pictograms





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#### Signal Word

Warning

#### Hazardous 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

##### Response

P314 - Get medical advice/attention if you feel unwell  
P331 Do NOT induce vomiting.  
P332 + P313 IF SKIN irritation occurs: Get medical advice/attention.

#### Precautionary statements

##### Storage

P403 Store in a well-ventilated place.

#### Precautionary statements

##### Disposal

P410 Protect from sunlight.

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

### 2.3 Other hazards

The potential of creating an explosive dust cloud exists.

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

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

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Not applicable

### 3.2 Mixtures

**Chemical description:** N,N'-Dicyclohexyl-2-Benzothiazolesulfenamide(active ingredient)

#### Composition/Information on ingredients

Chemical Name	CAS No.	EC No.	Annexure 1 Index No.	Weight %
N,N'-Dicyclohexyl-2-Benzothiazolesulfenamide	4979-32-2	225-625-8	---	> 95
White mineral oil	8042-47-5	-	-	1-2

## 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.



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<b>Ingestion</b>	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.
<b>Contact with the skin</b>	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.
<b>Contact with the eyes</b>	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.
<b>Notes to Physician</b>	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

**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

Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Sulphur oxides

### 5.3 Protective Equipment and Precautions for Firefighters

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 vapors from the hot product.



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#### 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

### 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.

At temperatures above 40°C and/or in high humidity conditions the product gradually decomposes generating N,N-Dicyclohexylamine (although this product is not very volatile, it may generate irritant vapours at high temperatures).

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

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: 534 mg/kg body weight/day

-Acute Inhalation: 5 mg/m<sup>3</sup>

-Chronic dermal: 67 mg/kg body weight/day

-Chronic Inhalation: 5 mg/m<sup>3</sup>

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



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#### 8.2 Exposure Controls Engineering Control

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

#### Personal protective equipment:

Respiratory: Full-face protective mask with filter.  
Eye: Approved safety goggles  
Skin: 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

Physical state	Solid powder
Colour	Off white
Odour	Characteristic
Melting point	90-102 °C
Boiling point	Decomposes before boiling
Vapour pressure	< 1*10 <sup>-5</sup> Pa at 25°C
Vapour density	No data available
pH	No data available
Relative density	1,27 g/cm <sup>3</sup>
Solubility in water	<0.05 mg/l at 20°C and pH 6.4-6.9
Partition coefficient n-octanol/water	Log Pow: 5.95 at 25°C and pH 7
Flash point	Not available
Autoignition temperature	>300 °C ( for powder )
Evaporation rate	No data available
Decomposition temperature	>300°C
Dissociation constant	pKa(HL/H+L)=1.45+0.30 at 25°C pKa(H2L/H+HL)= -3.47+0.20
Combustion properties	Not Applicable
Soluble in	Toluene ,Cyclohexane and other long chain Hydrocarbons

#### 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

The product is stable when stored at room temperature in its original packaging. Stable under normal conditions of use, handling and transport. When the product gets wet, it decomposes very slowly and may release N,N-Dicyclohexylamine 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:

Oxidizing agents, strong acids and alkalis.

##### 10.6 Hazardous decomposition products:

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

#### SECTION 11: TOXICOLOGICAL INFORMATION

##### 11.1 Information on toxicological effect

<b>Acute oral toxicity LD50 (mg/kg)</b>	> 5,000 mg/kg (rat)
<b>Acute dermal toxicity LD50 (mg/kg)</b>	> 5,000 mg/kg (rabbit)
<b>Organs affected/routes of exposure</b>	Eyes, respiratory tract, skin / inhalation, contact.
<b>Ingestion</b>	While the product is slightly toxic by ingestion, discomfort and/or adverse effects may result from the ingestion of relatively large amounts of product.
<b>Contact with the skin</b>	The product is mildly irritating to the skin. Symptoms: reddening, swelling and rashes. May cause an allergic skin reaction.
<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>Contact with the eyes</b>	May cause slight irritation to eyes with symptoms typical of conjunctivitis: reddening, swelling, pain and tears.



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**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. 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.

**Carcinogenicity**

Negative results of in vitro and in vivo genetic toxicity tests.

**Genotoxicity**

**Reproductive toxicity**

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

**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

**Toxicity to fish:** 96h-LC50 (*Oryzias latipes*): >0.033 mg/l

**Toxicity to algae:** 72h-IC50 (*Selenastrum capricornutum*): >0.012 mg/l

**Toxicity to invertebrates:** 48h-EC50 (*Daphnia magna*): >0.031 mg/l

### 12.2 Persistence and Degradability

**Abiotic:** The product is rapidly degraded by hydrolysis (50% in 53 h at pH 7 and 25°C, in 57 h at pH 4 and in 48 h at pH 9).

**Biotic:** Product not readily biodegradable.

### 12.3 Mobility in Soil

No data available

### 12.4 Bioaccumulation Potential

The tests performed on the material indicate that the product has a high potential for bioaccumulation.

### 12.5 PBT and vPBT assessment

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



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#### 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
Packaging group	III
UN No.	3077
Hazardous label	Hazardous for the environment
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (N,N'-Dicyclohexyl-2-Benzothiazolesulfenamide)

##### 14.2. Sea transport (IMDG)

IMO/IMDG class	9
Packaging group	III
UN No.	3077
EMS	F-A, S-F
Marine pollutant	Yes
Hazardous label	Hazardous for the environment
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (N,N'-Dicyclohexyl-2-Benzothiazolesulfenamide)

##### 14.3. Air transport

ICAO-TI/IATA-DGR class:	9
Packaging group	III
UN No.	3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (N,N'-Dicyclohexyl-2-Benzothiazolesulfenamide)

##### 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.





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#### 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), 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

##### 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 .

##### 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**