



## MERCHEM LIMITED

### SAFETY DATA SHEET

MERDONOR DTDC  
MSDS No. 42/20.03.2015

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

### 1.1 Product Identifier

Product Name Merdonor DTDC  
Synonym Dithio di caprolactam,  
N,N'-Dicaprolactamdisulphide

### 1.2 Use of the Substance/Mixture

Identified uses Sulfur donor

### 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 according to EU Directives 67/548/EEC or 1999/45/EC

Xi  
R 36/38  
R 43

EC Number: 245-910-0

Annex 1 Index Number: Nil

#### Classification according to Regulation (EC) No 1272/2008

Skin irritation (Category 2), H315  
Eye irritation (Category 2), H319  
Specific target organ toxicity - single exposure (Category 3), H335

### 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008



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**Product Name** Merdonor DTDC

**Hazard Pictogram**



**Signal word**

Warning

**Hazard statement(s)**

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

**Precautionary statement(s) - Prevention**

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling  
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(s) –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.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Precautionary statements — Storage**

P402 + P404 Store in a dry place. Store in a closed container.

**Precautionary statements — Disposal**

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

**Supplemental Hazard Statements** : None

**2.3 Other hazards :** None

**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

**3.1 Substances**  
**Chemical description**

Dithio di caprolactam



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#### Composition/Information on ingredients

Chemical Name	CAS No.	EC No.	Annex-1 Index No.	Weight %
Dithio dicaprolactam	23847-08-7	245-910-0	---	>98

#### 3.2 Mixtures

Not applicable. Substance is not a mixture

### 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.
- Inhalation** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- Skin contact** Wash off with soap and plenty of water. Consult a physician. Take off immediately all contaminated clothing.
- Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Ingestion** Never give anything by mouth to an unconscious person. Remove visible material, clean the face with water; lie down quietly and seek medical advice.

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

- Causes skin irritation
- Causes serious eye irritation
- May cause respiratory irritation

#### 4.3 Indication of any immediate medical attention and special treatment needed :

5 No data available

### SECTION 5: FIRE FIGHTING MEASURES

#### 5.1 Extinguishing media

**Suitable extinguishing media** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

- Specific hazard** During a fire the product can form sulfur dioxide, nitrogen oxides, and toxic fumesCarbon oxides
- Specific method** Remove the combustible products. Hose down gases / fumes / dust with water spray. Avoid the run-off of polluted water into waterways



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#### 5.3 Protective Equipment and Precautions for Firefighters

Self contained breathing apparatus (SCBA) operating in the positive pressure mode and full fire fighting protective clothing should be worn for combating fires

### SECTION 6: ACCIDENTAL RELEASE MEASURES

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

- Use personal protective equipment.
- Avoid dust formation.
- Avoid breathing vapours, mist or gas.
- Ensure adequate ventilation.
- Evacuate personnel to safe areas.
- Avoid breathing dust.

#### 6.2 Environmental precautions

- Avoid dust formation and sources of ignition
- Do not let product enter drains.

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

- Pick up and arrange disposal without creating dust.
- Sweep up and shovel.
- Keep in suitable, closed containers for disposal.

#### 6.4 Reference to other sections

- See section 7,8 & 13

### SECTION 7: HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

- Avoid contact with skin and eyes
- Avoid formation of dust and aerosols.
- Provide appropriate exhaust ventilation at places where dust is formed.
- Wear personal protective equipment
- Ensure that eyewash stations and safety showers are close to the workstation location
- Wash hands after handling
- Remove contaminated clothing and protective equipment before entering eating areas

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

- Store in cool place.
- Keep container tightly closed in a dry and well-ventilated place.
- Use spark-proof tools and explosion-proof equipment
- Keep away from heat and sources of ignition

#### 7.3 Specific end use(s)

A part from the uses mentioned in section 1.2 no other specific uses are stipulated



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## SECTION 8: EXPOSURE CONTROL/PERSONNEL PROTECTION

### 8.1 Control parameters

Handle in accordance with good industrial hygiene and safety practice.. Local exhaust ventilation should be provided

### 8.2 Exposure controls

**Appropriate engineering controls** : Avoid dust generation. Ensure good ventilation and Local exhaustion of the working area

### Personal protective equipment

#### Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Body Protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Do not let product enter drains. Avoid subsoil penetration

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |                    |   |                 |
|--------------------|---|-----------------|
| a) Appearance Form | : | solid, granular |
| b) colour          | : | off white       |
| c) Odour           | : | characteristic  |



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d) pH	:	No data available
e) Melting point	:	120 - 125 °C
f) Initial boiling point and boiling range :		No data available
g) Flash point	:	No data available
h) Evaporation rate	:	No data available
i) Flammability (solid, gas)	:	No data available
j) Upper/lower flammability or explosive limits :		No data available
k) Vapour pressure	:	No data available
l) Vapour density	:	No data available
m) Relative density	:	1,360 g/cm <sup>3</sup>
n) Water solubility	:	Practically insoluble
o) Partition coefficient: noctanol/water :		No data available
p) Auto-ignition temperature	:	No data available
q) Decomposition temperature :		No data available
r) Viscosity	:	No t Applicable
s) Explosive properties	:	No data available
t) Oxidizing properties	:	No data available
u) Bulk density	:	400 -440 kg/m <sup>3</sup>

#### 9.2 Other safety information

No data available

### SECTION 10: STABILITY AND REACTIVITY

#### 10.1 Reactivity

- No data available

#### 10.2 Chemical stability

- Stable under recommended storage conditions.

#### 10.3 Possibility of hazardous reactions

- No data available



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#### 10.4 Conditions to avoid

- High temperature
- acids and oxidants.

#### 10.5 Incompatible materials

- Acids
- strong oxidizing agents. .

#### 10.6 Hazardous decomposition products

- . In contact with acids, liberates toxic gases (SO<sub>x</sub> and NO<sub>x</sub>)
- Heating or fire can release toxic gas  
Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Sulphur oxides

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Information on toxicological effects

Acute toxicity	:	No data available
Acute Inhalation toxicity	:	No data available
Acute dermal toxicity	:	No data available
Serious eye damage/eye irritation	:	irritating to eyes
Respiratory or skin sensitization	:	May cause sensitization by skin contact. Repeated or prolonged exposure may cause skin irritations
Germ cell mutagenicity	:	No data available
Carcinogenicity	:	No data available
Reproductive toxicity	:	No toxicity to reproduction
Specific target organ toxicity - single exposure	:	Inhalation - May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	:	No data available
Human experience	:	slightly irritating on skin and eyes. Repeated or prolonged exposure may cause skin irritations .Nausea, Headache, Vomiting,



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#### Additional Information

: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 Eco Toxicity

No data available

### 12.2 Persistence and degradability

When released into the soil, this material may biodegrade to a moderate extent

### 12.3 Bioaccumulative potential

This material is not expected to bioaccumulate

### 12.4 Mobility in soil

When released into the soil, this material is expected to leach into groundwater.

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

No data available

### 12.7 Other information

Do not discharge product unmonitored into the environment

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 Waste Disposal Method

#### Waste treatment methods

##### Product

Offer surplus and non-recyclable material to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Dispose of in accordance with local regulations

#### Contaminated packaging

- Dispose of container and unused contents in accordance with federal, state and local requirements





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#### SECTION 14: TRANSPORT INFORMATION

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

ADR/RID Class	9
UN-No	3077
Packing Group	III
Proper Shipping Name	Environmentally Hazardous substance,Solid,n.o.s(Dithio di caprolactam)

##### 14.2 Sea transport (IMDG)

Class	9
UN-No	3077
Packing Group	III
Marine pollutant	No
Proper Shipping Name	Environmentally Hazardous substance,Solid,n.o.s(Dithio di caprolactam)

##### 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(Dithio di caprolactam)

##### 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

For this product a chemical safety assessment was not carried out



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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

#### Full text of R & S Statements and symbols referred to under sections 2

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

Xi Irritant

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

- R 36/38 Irritating to eyes & skin
- R 43 May cause sensitization by skin contact

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

- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
- S28 After contact with skin, wash immediately with plenty of soap and water
- S61 Avoid release to the environment

#### Further information:

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**