



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE ZDMC
MSDS No. 18/20.03.2015

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

1.1 Product Identifier

Product Name Mercure ZDMC
Synonym Zinc dimethyldithiocarbamate

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

T+

Xn

Xi

N

R50/53

R26

R22-48/22

R37-R41

R43

EC Number: 205-288-3

Annex 1 Index Number: 006-012-00-2

REGULATION (EC) No. 1272/2008

Classification of the substance or mixture Acute tox: Cat. 2; Acute tox: Cat. 4; STOT RE: Cat. 2; STOT Se: Cat. 3; Eye damage: Cat 1; Skin sensitization: Cat. 1; Aquatic acute: Cat. 1; Aquatic Chronic: Cat. 1; M-factor: 100



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE ZDMC
MSDS No. 18/20.03.2015

2.2 Label elements

Product Name

Mercure ZDMC

Hazard pictograms



Signal Word

Danger

Hazard Statements

- H330 - Fatal if inhaled
- H302 - Harmful if swallowed
- H373 - May cause damage to organs through prolonged or repeated exposure
- H335 - May cause respiratory irritation
- H318 - Causes serious eye damage
- H317 - May cause an allergic skin reaction
- H410 - Very toxic to aquatic life with long lasting effects

Precautionary statement –

Prevention

- P264 - Wash face, hands and any exposed skin thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P260 - Do not breathe dust/ fume/ gas /mist/ vapors/spray
- P271 - Use only outdoors or in a well-ventilated area P284 - Wear respiratory protection
- 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

Prevention

- P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- P330 - Rinse mouth
- P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
- P310 - Immediately call a POISON CENTER or doctor/physician
- P320 - Specific treatment is urgent (see supplemental first aid instructions on this label)
- 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
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE ZDMC
MSDS No. 18/20.03.2015

Remove contact lenses, if present and easy to do. Continue rinsing
P314 - Get medical advice/attention if you feel unwell
P391 - Collect spillage
P312 - Call a POISON CENTER or doctor/physician if you feel unwell

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

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)

This substance is not considered to be very persistent nor very bioaccumulating (vPvB)

Other hazards which do not result in classification

Risk of dust explosion

Use of alcoholic beverages may enhance toxic effects

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

Substance is not a mixture

3.2 Mixtures

Chemical description:

Zinc dimethyldithiocarbamate

Composition/Information on ingredients

Chemical Name	CAS No.	EC No.	Annex-1 Index No.	Weight %
Zinc dimethyldithiocarbamate	137-30-4	205-288-3	006-012-00-2	>96
White mineral oil	8042-47-5	-	-	1-2



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE ZDMC
MSDS No. 18/20.03.2015

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

4.2 Most important symptoms and effects, both acute and delayed

- May be fatal if inhaled in large quantities
- Toxic if swallowed
- Serious eye damage/eye irritation
- Irritating to respiratory system
- May cause sensitization by skin contact
- Dermal absorption possible
- Liver and kidney injuries may occur
- Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness

4.3 Indication of immediate medical attention and special treatment needed

- General advice for dithiocarbamates
- Biomonitoring possible at chronical exposure: determination of TTCA in the urine at the end of the workday/week.
- Blood testing for delayed effects: liver tests, kidney function, thyroid function



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE ZDMC
MSDS No. 18/20.03.2015

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Water spray/mist , foam, dry chemical 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 hazardous gases:
Carbon monoxide , Sulphur oxides & Nitrogen oxides (NOx)

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

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

6.2 Environmental precautions

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



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE ZDMC
MSDS No. 18/20.03.2015

6.3 Methods and materials for containment and cleaning up

- Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container
- Do not flush with water
- Avoid dust formation
- Use a suitable vacuum cleaner
- Use explosion-proof equipment

6.4 Reference to other sections

- See section 7,8 & 13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

- Take measures to prevent the build-up of electrostatic charge
- Use only in area provided with appropriate exhaust ventilation
- Use spark-proof tools and explosion-proof equipment
- Avoid dust formation
- Avoid contact with skin, eyes and clothing
- Wear personal protective equipment
- Do not breathe vapours/dust
- Use only in an area equipped with a safety shower
- Ensure that eyewash stations and safety showers are close to the workstation location
- Do not eat, drink or smoke when using this product
- Wash hands after handling
- Remove contaminated clothing and protective equipment before entering eating areas

7.2 Conditions for safe storage, including any incompatibilities

- In accordance with local and national regulations
- Keep in a dry, cool place
- Do not store near acids
- Do not store together with oxidizing and self-igniting products
- Use spark-proof tools and explosion-proof equipment
- Keep away from heat and sources of ignition

7.3 Specific end uses

No further relevant information available.



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE ZDMC
MSDS No. 18/20.03.2015

SECTION 8: EXPOSURE CONTROL/PERSONNEL PROTECTION

8.1 Control parameters

Occupational exposure limit values No data available

8.2 Exposure controls

Engineering Controls: Avoid dust generation. Ensure good ventilation and Local
exhaustion of the working area

Personal Protective Equipment:

Eye/face Protection Tightly fitting safety goggles or Face-shield

Skin Protection Wear suitable protective clothing/equipment

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

Physical State	Solid powder
Color	White
Odor	None
Boiling point/Range	Not applicable
Melting point/Range	240°C
Flash Point	Approximately 200°C
Flammability	No data available
Auto-ignition temperature	400°C
Explosive properties	Dust explosion hazard
Explosion Limit	Lower explosion Limit (LEL): 40g/m3 Minimum ignition energy: =<10 mJ
Oxidizing properties	No data available



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE ZDMC
MSDS No. 18/20.03.2015

Vapor pressure	Negligible at room temperature
Density	1700 Kg/M3 at 20°C
Bulk density	500 – 600 Kg/M3
Solubility in water	Practically insoluble
Solubility in other solvents	Acetone, alcohol, benzene
pH	No data available
Partition coefficient (n-Octanol-water)	No data available
Relative vapor density	No data available
Viscosity	No data available

9.2 Other information

No data available

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
- Oxidizing agents

10.6 Hazardous Decomposition Products

- Heating or fire can release toxic gas
 - Carbon oxides
 - Nitrogen oxides (NOx)
 - Sulphur oxides





MERCHEM LIMITED

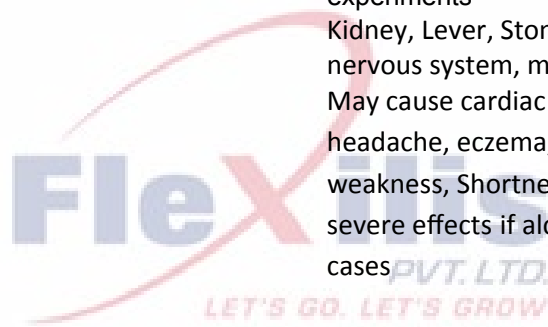
SAFETY DATA SHEET

MERCURE ZDMC
MSDS No. 18/20.03.2015

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity (LD50/oral/rat):	267 mg/Kg
Acute dermal toxicity (LD50/dermal/rat):	2000 mg/Kg
Acute inhalational toxicity (LC50/inhalation/4h/rat):	0.06 mg/L
Eye irritation:	Irritating to eyes
Skin irritation/Sensitization:	Non-irritating to the skin The results of a test on guinea pigs showed this substance to be a weak skin sensitizer
Mutagenic Effects	Did not show mutagenic effects in animal experiments
Reproductive toxicity:	No toxicity to reproduction
Carcinogenic effects:	Did not show carcinogenic effects in animal experiments
Target Organ Effects:	Kidney, Liver, Stomach, thyroid, adrenal gland, nervous system, muscle
Human experience:	May cause cardiac arrhythmia, dizziness, Fatigue, headache, eczema, dermatitis, nausea, muscular weakness, Shortness of breath, Drowsiness, More severe effects if alcohol is consumed, in extreme cases



SECTION 12: ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Component information:	Active ingredient
Toxicity to fish:	LC50 : 0.0097 - 1.70 mg/L
EC50/48h/daphnia:	0.048 mg/l
EC50/120h/algae:	0.066 mg/l
Toxicity to bacteria:	IC50 : 19.20 mg/l

12.2 Mobility in soil

Minimum

12.3 Persistence and degradability

Degradation half life after <2 days

12.4 Bioaccumulative Potential

Minimum



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE ZDMC
MSDS No. 18/20.03.2015

12.5 Results of PBT and vPvB assessment

- This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)
- This substance is not considered to be very persistent nor very bioaccumulating (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

- Dispose of in accordance with local regulations
- Waste codes should be assigned by the user based on the application for which the product was used
- Classified as hazardous waste according to national equivalent of EC-Dir. 91/689; disposal of toxic and hazardous waste

Packing

- Empty containers should be taken for local recycling, recovery or waste disposal

SECTION 14: TRANSPORT INFORMATION

14.1 Road transport (ADR/RID/ADN)

ADR/RID Class	6.1
UN-No	2811
Packing Group	I
Hazardous label	Hazardous for the environment
Proper Shipping Name	Toxic solid, organic, N.O.S. (Zinc dimethyldithiocarbamate)

14.2 Sea transport (IMDG)

Class	6.1
UN-No	2811
Packing Group	I
Marine pollutant	Yes
Hazardous label	Hazardous for the environment
Proper Shipping Name	Toxic solid, organic, N.O.S. (Zinc dimethyldithiocarbamate)



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE ZDMC
MSDS No. 18/20.03.2015

14.3 Air transport (ICAO-TI/IATA)

Class 6.1
UN-No 2811
Packing Group I
Proper Shipping Name Toxic solid, organic, N.O.S. (Zinc dimethyldithiocarbamate)

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

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



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE ZDMC
MSDS No. 18/20.03.2015

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

- R22 - Harmful if swallowed
- R48/22 - Harmful: danger of serious damage to health by prolonged exposure if swallowed
- R26 - Very toxic by inhalation
- R37 - Irritating to respiratory system
- R41 - Risk of serious damage to eyes
- 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
- 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
- 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)

- T+ - Toxic substances or preparations, classified as *very toxic* (T+) or *toxic* (T)
- Xn - Harmful substances or preparations
- 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