



MERCHEM LIMITED

SAFETY DATA SHEET

MERCURE ZBEC
MSDS No. 17/20.03.2015

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

1.1 Product Identifier

Product Name	Mercure ZBEC
Synonym	Zinc dibenzylthiocarbamate

1.2 Use of the Substance/Mixture

Identified uses	Rubber vulcanization accelerator
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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

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

N
R50/53

EC Number: 238-778-0

Annex 1 Index Number: Not available

REGULATION (EC) No. 1272/2008

Classification of the substance or mixture	Hazardous to the aquatic environment, acute hazard Cat.1; Hazardous to the aquatic environment, long-term hazard Cat.1
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2.2 Label elements

Product Name

Mercure ZBEC

Hazard pictograms



Signal Word

Warning

Hazard Statements

H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - Prevention

P273 Avoid release to the environment.

Precautionary Statements - Response

P391 Collect spillage. Hazardous to the aquatic environment

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 waste disposal plant.

Supplemental Hazard Statements : None

2.3 Other hazards

PBT and vPvB assessment

Not applicable

Other hazards which do not result in classification

There is the possibility of formation of dust clouds that could be explosive.

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



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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical description: Zinc dibenzylthiocarbamate

Composition/Information on ingredients

Chemical Name	CAS No.	EC No.	Annex-1 Index No.	Weight %
Zinc dibenzylthiocarbamate	14726-36-4	238-778-0	NA	>97

3.2 Mixtures

Not applicable. Substance is not a mixture

SECTION 4: FIRST AID MEASURES

4.1 Description of first-aid measures

General Advice	In case of persistent adverse effects, 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	Move exposed person to fresh air. Keep person warm and at rest. If not breathing/if breathing is irregular/if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get immediate medical attention if adverse health effects persist or are severe. Maintain an open airway. Loosen tight clothing such as collar, tie, belt, or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. He exposed person may need to be kept under medical surveillance for 48 hours.
Ingestion	Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery posture and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt, or waistband. Get medical attention if adverse health effects persist or are severe.



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4.2 Most important symptoms and effects, both acute and delayed

Very toxic to aquatic life with long lasting effects

4.3 Indication of immediate medical attention and special treatment needed

No further relevant information available

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Water spray, foam, carbon dioxide, dry chemical powder

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

5.2 Specific hazards arising from the substance or mixture

Specific hazards In the event of fire, the following can be released:
Carbon monoxide (CO)
Carbon dioxide(CO₂)
Sulphur oxides (Sox)
Nitrogen oxides (NO_x)
Hydrogen cyanide (HCN)

Specific methods No specific fire or explosion hazard. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

5.3 Protective Equipment and Precautions for Firefighters

Fire-fighters should wear appropriate protective equipment and self contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.



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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Avoid contact with skin, eyes and clothing. Put on appropriate personal protective equipment.

6.2 Environmental precautions

Very toxic to aquatic organisms. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Large spill: Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

Small spill: Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

See section 7, 8 and 13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Precautions for safe handling

The usual precautions for handling chemicals should be observed.

Put on appropriate personal protective equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.

Information about fire and explosion protection:

Avoid dust generation and accumulation. Dust/air mixtures may ignite violently upon exposure to sparks or sources of ignition. Kst: 168 bar*m/s. Maximum corrected explosion pressure: 7.0 bar. Minimum Ignition Energy (MIE) = <3 mJ.



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7.2 Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and receptacles:

Store only in the original receptacle. Store in accordance with local regulations. Store in a dry and cool place. Keep container tightly closed until ready for use. Containers that have been opened should be carefully closed. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Information about storage in one common storage facility:

Do not store together with oxidizing and acidic materials.

7.3 Specific end uses

No further relevant information available.

SECTION 8: EXPOSURE CONTROL/PERSONNEL PROTECTION

8.1 Control parameters

Occupational exposure limit values

Total inhalable dust	TWA : 10 mg/m ³
Total respirable dust	TWA: 4 mg/m ³

8.2 Exposure controls

Engineering Controls:	Avoid dust generation. Ensure good ventilation and local exhaustion of the working area
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Personal Protective Equipment

Eye/face Protection	Safety glasses with side protection shield (EN 166)
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Skin Protection	Wear suitable protective clothing/equipment
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Hand Protection	Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations such that permanent use of protective gloves is avoided.
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Respiratory Protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

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, light cream
Odor	Characteristic
Boiling point/Range	Not applicable
Melting point/Range	178°C
Flash Point	No data available
Flammability	No data available
Auto-ignition temperature	480°C
Explosive properties	Dust explosion hazard
Explosion Limit	Lower explosion Limit (LEL): 40g/m ³ Minimum ignition energy: =<3mJ KST;168 bar. m/s
Oxidizing properties	No data available
Vapor pressure	Negligible at room temperature
Density	1420 Kg/M ³ at 20°C
Bulk density	210 - 250 Kg/M ³
Solubility in water	Practically insoluble (0.00106g/L at 20°C)
Solubility in other solvents	Acetone, chlorinated hydrocarbons
pH	No data available
Partition coefficient (n-Octanol-water)	No data available
Relative vapor density	No data available
Viscosity	Not applicable

9.2 Other information

No data available



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SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

- See Incompatible Materials
- Hydrolysis at 25 °C and 2.8 mg/L (pseudo-)first order DT50:
 - pH 5: 10.4 min
 - pH 7: 7.17 h
 - pH 9: 6.31 d

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

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 (NO_x)

Sulphur oxides

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity (LD50/oral/rat):	>5000 mg/Kg
Acute dermal toxicity (LD50/dermal/rat):	>2000 mg/Kg
Acute inhalational toxicity (LC50/inhalation/4h/rat):	No data available
Eye irritation:	Non-irritating to eyes
Skin irritation/Sensitization:	Non-irritating to the skin
Mutagenic Effects:	Not mutagenic
Reproductive toxicity:	None detected.
Carcinogenic effects:	No data available



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Toxico-kinetics, metabolism, and distribution:

Dermal

Dermal absorption	0.1 % (human)	(percutaneous absorption rate, 6.4 mg/cm ² , 6-h)
	2.2 % (human)	(percutaneous absorption rate, 0.016 mg/cm ² , 6-h)
	28.5 % (rat)	(percutaneous absorption rate, 0.086 mg/cm ² , 24-h)
	30.7 % (rat)	(percutaneous absorption rate, 0.95 mg/cm ² , 24-h)
	4.89 % (rat)	(percutaneous absorption rate, 7.25 mg/cm ² , 24-h)

Basic toxicokinetics (rat)

No bioaccumulation potential based on study results

Repeated dose toxicity

Oral

NOAEL Repeated dose

52 mg/kg bw/day (rat) (17-wk, subchronic)
Digestive: liver
Urogenital: kidneys

SECTION 12: ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Component information: Active ingredient

EC50 Short-term

- Toxicity to aquatic algae and cyanobacteria, 96-h (Chlorella pyrenoidosa): 1.1 mg/L
- Toxicity to microorganisms, 3-h (Activated sludge): > 1000 mg/L
- Toxicity to aquatic invertebrates, 48-h (Daphnia magna): 0.74 mg/L

LC50 Short-term

- Toxicity to fish, 96-h (Poecilia reticulata): >10 mg/L

NOEC Long-term

- Toxicity to aquatic invertebrates, 21-d (Daphnia magna): 3.2 µg/L
- Toxicity to fish, 8-d (Danio rerio): 100 µg/L



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12.2 Mobility in soil

Adsorp. / desorp: .42 = log Koc, 25 °C (none, from calculation) (KOCWIN™ 2008. Version 2.00)

12.3 Persistence and degradability

Biodegr. in water: 8 % biodegradation (activated sludge) (28-d, not readily biodegradable)

12.4 Bioaccumulative Potential

No further relevant information available

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects

No further relevant information available.

12.7 Other information

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water. Do not allow product to reach ground water, water course or sewage system. Dangerous to drinking water if even small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. Very toxic for aquatic organisms

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

- Disposal must be made according to official regulations.



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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
"Hazard label"	Hazardous for the environment
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s. (Zinc dibenzylidithiocarbamate)

14.2 Sea transport (IMDG)

Class	9
UN-No	3077
Packing Group	III
Marine pollutant	Yes
"Hazard label"	Hazardous for the environment
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s. (Zinc dibenzylidithiocarbamate)

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. (Zinc dibenzylidithiocarbamate)

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



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

15.2 Chemical Safety Assessment

No data available

SECTION 16: OTHER INFORMATION

This data sheet contains changes from the previous version in section(s)

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)

- R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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

- 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)

- 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