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MATERIAL SAFETY DATA SHEET

MSDS # PMC/RC/005/06

Updated on 02 - Jan - 2006
Product Name ACCICURE ZMBT
Revision Number +REV 04
UN Number 3077
CAS No. 155-04-4

Health Hazard :	1
Fire Hazard :	1
Reactivity :	0
Personal Protection :	X

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

PRODUCT NAME: ACCICURE ZMBT

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PRODUCT DESCRIPTION : Zinc mercaptobenzothiazole; ZMBT

HAZARDOUS INGREDIENT(S)	CAS No.	Symbol	% (w/w)	R Phrases
Zinc mercaptobenzothiazole	155-04-4	Xi	>70	R43
Components : 2-Mercaptobenzothiazole	149-30-4		15±5	

3. HAZARDS IDENTIFICATION

Irritant : May cause irritation to eyes & skin
May cause sensitisation by skin contact. See: **OTHER INFORMATION**

Group A dust. The material can form flammable dust clouds in air.

4. FIRST-AID MEASURES

Inhalation Remove patient from exposure. Obtain medical attention if ill effects occur.

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- Skin Contact** Remove contaminated clothing.
Wash skin liberally with soap with water.
If symptoms (irritation or blistering) occur obtain medical attention.
Contaminated clothing should be laundered before re-issue.
- Eye Contact** Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes. Obtain medical attention.
- Ingestion** Do not induce vomiting.
Wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain medical attention.

Further Medical Treatment

Symptomatic treatment and supportive therapy as indicated.

5. FIRE-FIGHTING MEASURES

Requires only routine fire fighting precautions

Combustible.

Group A dust. The material can form flammable dust clouds in air. Take precautionary measures against static discharges.

Combustion or thermal decomposition will evolve very toxic, irritant and extremely flammable vapours. Combustion products nitrogen oxides, sulphur oxides, carbon monoxide, carbon dioxide.

Extinguishing Media Water spray, foam, dry powder or CO₂. Do not use water jet. (Avoid dust generation.)

Fire Fighting Protective Equipment : A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Do not allow to enter drains, sewers or watercourses.

Control dust formation. (See 'Fire fighting measures'.)

Collect spillages by mechanical means.

Transfer to a container for disposal or recovery.

Ensure suitable personal protection during removal of spillages.

7. HANDLING AND STORAGE

7.1 HANDLING

Control dust formation. (See ' Fire fighting measures' .)
Avoid contact with skin and eyes.
Avoid inhalation of high concentrations of dusts. Atmospheric concentrations should be minimised and kept as low as reasonably practicable.

7.2 STORAGE

Group A dust. The material can form flammable dust clouds in air. Take precautionary measures against static discharges. Keep away from oxidising agents, acids, alkalis, moisture, heat and direct sunlight.

Suitable containers: High density polyethylene (HDPE) laminated paper bags with polythene liner inside.

Storage Temperature : Ambient.
Storage Life : 1 year(s)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Wear suitable gloves and eye/face protection.
Wear suitable respiratory protective equipment if exposure to high levels of dust are likely.

Occupational Exposure Limits

No occupational exposure limit listed but 6mg/m³ for total dust is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Powder, non staining
Colour	White-cream
Odour	Odourless
pH (Value)	Not applicable.
Boiling Point (Deg C)	No data.
Melting Point (Deg C)	300
Flash Point (Deg C)	No data.
Flammable Limits	No data.
Auto Ignition	
Temperature (Deg C)	No data.

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Explosive Properties	Group A dust. The material can form flammable dust clouds in air.
Oxidising Properties	No data.
Vapour Pressure (Ps)	No data.
Solubility (Water)	Insoluble.
Solubility (Other)	Soluble in dilute base (NaOH).
Partition Coefficient	No data.
Specific Gravity @ 25°C	1.64 typical
Molecular Weight	397.9
Molecular Formula	C14-H8-N2-S4-Zn

10. STABILITY AND REACTIVITY

Chemical Stability : Stable at ambient temperatures in closed, original container.
Stable under normal conditions of handling, use and transportation.

Hazardous Polymerisation : Will not occur.

Conditions to avoid : Keep away from heat, sparks and flames.
Dispersion of dust.

Avoid contact with strong oxidising agents, acids and alkalis.

Hazardous Decomposition Product(s) Oxides of Carbon, Nitrogen & Sulphur.
See ' Fire fighting measures' .

11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity : LD50 (Rat) : 7500 mg/kg
Acute Dermal Toxicity : LD50 (Rabbit) : >7900 mg/kg

Principal Routes of Exposure: Eyes, Inhalation, Dermal (Skin)

Inhalation High concentrations of dust may be irritant to the respiratory tract.
Combustion or thermal decomposition will evolve very toxic and irritant vapours.

Skin Contact May cause sensitisation by skin contact.

See: **OTHER INFORMATION**

Unlikely to cause skin irritation in man.

Unlikely to be hazardous by skin absorption.

Eye Contact Dust may cause irritation.

Signs of symptoms may include redness, swelling, pain and tearing

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Ingestion	Low oral toxicity. May cause headache, nausea, vomiting & gastrointestinal irritation.
Carcinogenicity	Negative in standard tests using bacteria and yeast cells.
Genotoxicity	Negative - in vitro tests
Reproductive/ Developmental Toxicity:	For MBT component – some evidence of carcinogenic activity was noticed in treated rats. For ZMBT component : No effects using chicken embryos.

12. ECOLOGICAL INFORMATION

Acute Fish Toxicity :	96Hr LC50 (Bluegill Sunfish) – 1.50 mg/l 96Hr LC50 (Fathead Minnow) – 11.0 mg/l 48 Hr EC50 (Daphnia Magna) – 4.1 mg/l
Acute Algae Toxicity :	96 Hr EC50 Algae – 0.25 mg/l
Octanol/Water Coefficient	Log P =5.0

Environmental Fate and Distribution

Solid with low volatility.
The product is essentially insoluble in water.

Persistence and Degradation

There is no evidence of degradation in water.

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with local, state or national legislation.

14. TRANSPORT INFORMATION

Not Classified as Dangerous for Transport.

DOT Classification :	Not regulated by DOT
IMDG Classification :	Not regulated by IMDG
ICAO Classification :	Not regulated by ICAO

15. REGULATORY INFORMATION

EC Classification IRRITANT Hazard Symbol Xi



Risk Phrases R43 May cause sensitisation by skin contact.

Safety Phrases S24 Avoid contact with skin.
 S36 Wear suitable protective clothing.
 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.

16. OTHER INFORMATION

Use : Accelerator

FDA Status 21 CFR Regulated for use under sections of 21 CFR :
 177.2600 Rubber Articles intended for Repeated Use
 in Food Contact, 175.105 Components of Adhesives.

Reference:

1. Fregert S., Cross-sensitivity pattern of 2-mercaptobenzothiazole (MBT). Acta Dermafovenereologica., 1969; 49: 45 - 48.

HMIS rating: Health: 1
 Flammability: 1
 Reactivity: 0
 PPI: X

Legend : 0(HMIS) Minimal hazard
 1(HMIS) Slight hazard
 2(HMIS) Moderate hazard
 3(HMIS) Serious hazard
 4(HMIS) Severe hazard
 X(HMIS) Personal protective rating to be supplied by user
 depending on the use conditions

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