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MATERIAL SAFETY DATA SHEET

MSDS # PMC/RC/003/06

Updated on 02-Jan-2006
Product Name ACCICURE MBT
Revision Number +REV03
UN Number 3077
CAS No. 149-30-4

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

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

PRODUCT NAME : ACCICURE MBT

Address/Phone No : PMC Rubber Chemicals India Private Limited
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2. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT DESCRIPTION : MBT; 2-Mercaptobenzothiazole

HAZARDOUS INGREDIENT(S)	CAS No.	%(w/w)	Symbol	R&S Phrases
2-Mercaptobenzothiazole	149-30-4	>98	Xi,N	R43 R50/53

Components	CAS No.	Percentage (W/W)
White Mineral Oil	8042-47-5	<2.0

3. HAZARDS IDENTIFICATION

Some clinical evidence of skin sensitisation has been reported but few problems have been encountered in use.

See: **OTHER INFORMATION**

Non irritant to skin. Irritant to eyes

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

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.
Skin Contact	Remove contaminated clothing. Wash skin with water. If symptoms (irritation or blistering) occur obtain medical attention. Contaminated clothing should be laundered before re-use.
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

Flash Point : 252°C (Open Cup)

Requires only routine fire precautions

Combustible but not readily ignited.

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, carbon monoxide, carbon dioxide and sulphur oxides.

Extinguishing Media	Water spray, foam, dry powder or CO ₂ . Do not use water jet. (Avoid dust generation.)
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Fire Fighting & Protective Equipment	A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.
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6. ACCIDENTAL RELEASE MEASURES

Do not allow to enter drains, sewers or watercourses. Use appropriate containment to avoid environmental contamination. 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.
Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

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. Good hygienic practices should be observed.

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.
Use appropriate containment to avoid environmental contamination.

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

Storage Temperature: Store below 50⁰ C.
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 2.5 mg/m³ for total dust is recommended

9. PHYSICAL AND CHEMICAL PROPERTIES

Form Powder (non-staining)
Colour Pale yellow

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Odour	Slight Aromatic
pH (Value)	Not applicable.
Boiling Point (Deg C)	>260
Melting Point (Deg C)	174 (min)
Flash Point (Deg C)	252 approx (open cup)
Flammable Limits	No data.
Auto Ignition Temp (Deg C)	No data.
Explosive Properties	Group A dust. The material can form flammable dust clouds in air.
Oxidising Properties	Not applicable.
Density (g/ml)	1.42 at 25 Deg C
Solubility (Water)	0.03gm/100 ml @ 25°C
Solubility (Other)	Soluble in Acetone, Dilute base (NaOH).
Partition Coefficient	log P n-octanol/water 2.34 - 2.5
Molecular Weight	167.25
Molecular Formula	C7-H5-S2-N

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Hazardous Polymerisation	Will not occur
Conditions to Avoid	Keep away from heat, sparks and flame. Dispersion of dust. Avoid contact with strong oxidising Agents, acids.
Hazardous Decomposition Products	Toxic Oxides of Carbon, Nitrogen and Sulphur

11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity	LD50 (Rat) 3800 mg/kg
Acute Dermal Toxicity	LD50 (Rabbit) >7500 mg/kg
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. May cause an allergic skin reaction. May cause a rash and itching of the skin.

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Eye Contact	Non-irritant to rabbit eyes. Dust may cause mild eye irritation. Symptoms may include redness, swelling and rearing.
Ingestion	Swallowing may cause serious illness.
Carcinogenicity	Negative in standard tests using bacteria and yeast cells.
Genotoxicity	None
Reproductive/ Developmental Toxicity	NTP concludes "Some evidence of carcinogenic activity" in treated rats. See Special Note (2)

See: **OTHER INFORMATION**

12. ECOLOGICAL INFORMATION

Substance is classified as Dangerous to the environment

Acute Fish Toxicity	LC50 (Rainbow Trout) (96 hour) 0.75 mg/l LC50 (Bluegill Sunfish) (96 hour) 1.5 mg/l EC50 (Daphnia Magna) (48 hour) 4.1 mg/l
Acute Algae Toxicity	EC50 Algae (96 hour) 0.25 mg/l

Environmental Fate and Distribution

Solid with low volatility.
The product is marginally soluble in water.

Persistence and Degradation

The substance has low potential for bioaccumulation.
Not readily biodegradable.

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with local, state or national legislation. This material and/or its container must be disposed of as hazardous waste.

14. TRANSPORT INFORMATION

Not Classified as Dangerous for Transport.
UN No. 3077
UN Pack. Group III
UN Packing Group Air III

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SEA

IMDG Class -primary 9
 Marine Pollutant Classified as a Marine Pollutant
 UN Packing Group Sea III
 Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(mercaptobenzothiazole)

ROAD/RAIL

ADR/RID Class 9
 ADR/RID Item No 12(c)
 Classification (Packages) NONE

15. REGULATORY INFORMATION

EC Classification

Irritant, Hazard Symbol

Xi



Dangerous for the environment, N



Risk Phrases:

R50/53 Very toxic to aquatic organisms, may cause Long term adverse effects in the aquatic environment.
 R43 May cause sensitisation by skin contact.

Safety Phrases:

S24 Avoid contact with skin.
 S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 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 for rubber vulcanisation

FDA Status 21 CFR

Regulated for use under sections of 21 CFR :
 177.2600 Rubber articles intended for Repeated Use in Food Contact.

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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

Special notes:

1. Whilst the experience of the manufacturers of the ingredient and of products containing MBT confirms that few problems are encountered in the phases of manufacture, compounding and curing, it is listed by the International Contact Dermatitis Group for routine patch testing ¹.
2. MBT was evaluated by the U.S. National Toxicological Program². In 2-year gavage studies, there was some evidence of carcinogenic activity for male and female F344/N rats, no evidence of carcinogenic activity for male B6C3F, mice and equivocal evidence for carcinogenic activity for female B6C3F mice.

References:

1. Cronin E., Contact Dermatitis. London: Churchill Livingstone, 1980; 725 et seq.
2. Chemical Regulation Reporter, 1987: 1490.

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