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MATERIAL SAFETY DATA SHEET

MSDS # PMC/RC/008/06

Updated on 02-Jan-2006
Product Name ACCICURE BSM
Revision Number +REV 04
UN Number 3077
CAS No. 102 - 77 - 2

Health Hazard :	2
Fire Hazard :	1
Reactivity :	0
Personal Protection :	X

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

PRODUCT NAME : ACCICURE BSM

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2. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT DESCRIPTION

MBS

2-(morpholiniothio) benzothiazole or N-oxydiethylene benzothiazole
sulphenamide

HAZARDOUS INGREDIENT(S)	CAS No.	Symbol	R Phrases
2-(Morpholiniothio)-benzothiazole	102-77-2	Xi, N	R36/38/43 R51/53

Components	CAS #	Percentage (W/W)
2-(Morpholiniothio) benzothiazole	102-77-2	96 – 99
2-Mercaptobenzothiazole	149-30-4	0 - 1
Morpholine	110-91-8	0 – 0.5
Mercaptobenzothiazole Disulphide	120-78-5	0 - 1

3. HAZARDS IDENTIFICATION

Emergency Overview : Warning : Combustible dust – explosion potential. Keep away from heat, sparks and flame. Irritating to eyes and skin and respiratory tract.

Eye Contact : May cause eye irritation. Symptoms may include redness, swelling, swelling, pain, tearing and hazy vision.

Skin Contact : May cause allergic skin reaction. May cause itching of the skin.

Inhalation : May cause moderate respiratory irritation. Symptoms may include soreness of the nose, throat and sneezing.

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

Ingestion : may be harmful if swallowed.

4. FIRST-AID MEASURES

Inhalation	Remove patient from exposure. Obtain medical attention if ill effects occur.
Skin Contact	Remove contaminated clothing. Wash skin immediately with soap and water. If symptoms (irritation or blistering) occur obtain medical attention. Contaminated clothing should be laundered before re-use.
Eye Contact	Immediately irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes. Obtain immediate 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

Combustible but not readily ignited. Protect from sparks (dust explosion risk)
Combustion or thermal decomposition will evolve very toxic, irritant and extremely flammable vapors.

Combustion products nitrogen oxides, sulphur oxides, carbon monoxide, carbon dioxide, morpholine vapours and mercaptobenzothiazole.

Decomposes at 130⁰C to CO_x, NO_x and morpholine

Extinguishing Media Water spray, foam, dry powder or CO₂. Do not use water jet.

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.
Clear up spillages. 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

Avoid contact with skin and eyes. Avoid generating/breathing dust.
Use appropriate PPE and do not reuse the container.

7.2 STORAGE

Keep away from oxidising agents, acids, alkalis, moisture, heat, direct sunlight and nitrosating agents for e.g. nitrites, nitrates, and nitrogen oxides.

Use appropriate containment to avoid environmental contamination.
Excessive heat or ageing will release morpholine
Suitable containers: High-density polyethylene (HDPE) laminated paper bags with polythene liner inside.

Storage Temperature cool (air-conditioned)
Storage Life 6 month(s)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Wear suitable gloves and eye/face protection.
Occupational Exposure Limits
No occupational exposure limit listed but 2.5 mg/m³ total dust is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form Granules/pellets
Colour Yellow/off-white, non-staining

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Odour	Amine-like
pH (Value)	Not applicable.
Boiling Point (Deg C)	Decomposes
Melting Point (Deg C)	80 (approx)
Flash Point (Deg C)	188 (open cup)
Flammable Limits	No data.
Auto Ignition	
Temperature (Deg C)	349 (Dust)
Explosive Properties	Not applicable.
Oxidising Properties	No data.
Vapour Pressure	
(Pascals)	<0.001
Density (g/ml)	1.35 at 20 Deg C
Solubility (Water)	Insoluble
Solubility (Other)	Soluble in acetone and methanol
Partition Coefficient	log P n-octanol/water 3.5
Decomposition	
Temperature (Deg C)	138
Specific gravity	1.35 (approx)
Molecular Weight	252.3
Molecular Formula	C11-H12-N2-O-S2

10. STABILITY AND REACTIVITY

Chemical Stability : Stable under normal conditions and if protected from heat and exposure to air. Loses potency with time

Hazardous Polymerisation : Will not occur.

Conditions to Avoid : Keep away from heat, sparks and flame.

Materials to Avoid : Do not store near Insoluble Sulphur. Incompatible materials oxidising agents, acids, alkalis and nitrosating agents for eg. nitrites, nitrates and nitrogen oxides.

Hazardous Decomposition Product(s) See 'Fire fighting measures'.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD50 (mg/kg)	>7940 mg/kg (Rat)
Acute Dermal LD50 (mg/kg)	>7940 mg/kg (Rabbit)
Principal Routes of exposure	Inhalation, Eye & Dermal (Skin)

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Ingestion	May be harmful if swallowed
Skin Contact	May cause allergic skin reaction, rash & itching of the skin
Inhalation	May cause respiratory irritation. Irritates mucous membranes. Symptoms may include soreness of the nose, throat & sneezing.
Eye Contact	Irritating to eyes. Symptoms may include redness, swelling, pain & hazy vision.
Carcinogenicity	-ve & +ve results in standard tests using animals & bacteria cells.
Genotoxicity	No adverse effects in standard tests using yeast cells
Reproductive/ Developmental Toxicity	No evidence of teratogenicity in animal studies using rats & mice

12. ECOLOGICAL INFORMATION

Acute Fish Toxicity	96 hr LC50 Rainbow Trout – 1.30 mg/l 96 hr LC50 Bluegill Sunfish – 4.40 mg/l
Acute Algae Toxicity	96 hr EC50 Algae – 2.0 mg/l
Octanol/Water Coefficient	Log P = 3.5
Chemical fate Information	Bioconcentration Factor – 100

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
SEA	
IMDG Class-primary	9
Marine Pollutant	Classified as a Marine Pollutant
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(morpholinothiobenzothiazole)
ROAD/RAIL	
ADR/RID Class	9

15. REGULATORY INFORMATION

EC Classification

Irritant, Hazard Symbol

Xi



Dangerous for the environment, N



Risk Phrases

R36/38 Irritating to eyes and skin.
R43 May cause sensitisation by skin contact.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

To minimize the possibility of generating nitrosamines which may have carcinogenic potential, this compound should not be used in combination with nitrosating agents.

Use : Accelerator for rubber vulcanization

FDA Status 21 CFR

Not regulated for Use under section 21 CFR 177.2600
Rubber Articles Intended for Repeated Use in Food Contact.

HMIS rating: Health: 2
Flammability: 1
Reactivity: 0
PPI: X

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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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