SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name:	PILCURE MBTS
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains Dibenzothiazole disulphide)
Other means of identification:	2, 2'-Dibenzothiazolyl Disulphide
CAS NO.	120-78-5
Chemical Formula	C14H8N2S4

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Rubber Vulcanization Accelerator

Uses advised against

Advice against other uses: None identified

Details of the supplier of the safety data sheet

Supplier:	NOCIL LIMITED
Address:	MAFATLAL HOUSE, H.T. PAREKH MARG, BACKBAY RECLAMATION, CHURCHGATE, MUMBAI 400 020, MAHARASHTRA STATE, INDIA.
Telephone:	+9122 66364062
Fax:	+9122 66364060
Emergency Contact (24 Hrs.)	NOCIL LIMITED C-37, TTC INDUSTRIAL AREA, OFF THANE BELAPUR ROAD, TURBHE, NAVI MUMBAI-400705, MAHARASHTRA STATE, INDIA Telephone No. :+91 22 66730555 FAX No. : +91 22 27671862 E-mail : hse@nocil.com

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification according to GHS

Classification	Category	Exposure Route
Skin Sensitization	1	-
Aquatic Acute	1	-
Aquatic Chronic	1	-

Other adverse physicochemical, human health and environmental effects

No reliable data available.

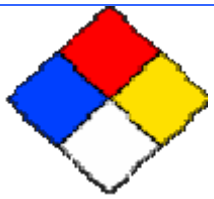
Label elements

Labelling according to GHS

Hazard pictogram:

Signal word:	Warning
Hazard Statements:	H317: May cause an allergic skin reaction. H400: Very toxic to aquatic life H410:Very toxic to aquatic life with long lasting effects

Precautionary Statements:

Prevention:	P261: Avoid breathing dust. P272: Contaminated work clothing should not be allowed out of the workplace. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection.
Response:	P302+352: IF ON SKIN: Wash with plenty of soap and water. P333+313: If skin irritation or rash occurs: Get medical advice/attention. P363: Wash contaminated clothing before reuse. P391: Collect spillage.
Disposal:	P501 Dispose of contents/container in accordance with local/regional/national/international regulation.
NFPA Ratings (Scale 0 – 4):	 Health: 1, Fire: 1, Reactivity: 0

Other hazards

EUH031: Contact with acids liberates toxic gas

SECTION 3: Composition/information on ingredients

Substances

Name	CAS No.	EC No.	% wt/wt
Dibenzothiazole disulphide	120-78-5	204-424-9	>96%
Mercaptobenzothiazole	149–30–4	205-736-8	<1%
White mineral oil	8042-47-5	232-455-8	1-2%
Synonyms:	2, 2'-Dibenzothiazolyl Disulphide		

Mixtures

Not applicable.

SECTION 4: First aid measures

Description of first aid measures

Inhalation: Move victim to fresh air. If not breathing, give artificial respiration. Get medical attention.

Skin contact: Immediately wash with plenty of soap and water. Get medical attention if irritation occurs.

Eye contact: Immediately flush eyes with running water for at least 20 minutes holding eyelids open. Get medical attention.

Ingestion: Do not induce vomiting. Give 1-2 glasses of water to a conscious victim. Never give anything by mouth to an unconscious victim. Get medical attention.

Advice for the doctor: Symptomatic treatment.

Most important symptoms and effects, both acute and delayed

May cause sensitization by skin contact;

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

Indication of any immediate medical attention and special treatment needed

No reliable data available.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:

Foam.

Dry chemical powder.

Carbon dioxide.

Water spray or fog - Large fires only

Special hazards arising from the substance or mixture

Fire/explosion hazard: Emits toxic fumes under fire conditions.

Main combustion gas : carbon monoxide, carbon dioxide gases, nitrogen oxides and sulphur dioxide fumes.

Advice for firefighters

Alert Fire Brigade and tell them location and nature of hazard.

Wear breathing apparatus plus protective gloves.

Prevent, by any means available, spillage from entering drains or water courses.

Use water delivered as a fine spray to control fire and cool adjacent area.

DO NOT approach containers suspected to be hot.

Cool fire exposed containers with water spray from a protected location.

If safe to do so, remove containers from path of fire.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Wear suitable protective equipment.

For emergency responders

Remove ignition sources and provision of sufficient ventilation, evacuate the danger area and consult experts.

Environmental precautions

Take precautions to prevent entry into waterways, sewers, or surface drainage systems. Dispose according to local or international regulations.

Methods and material for containment and cleaning up

Use appropriate tools to put the spilled solid in suitable container for recovery or disposal, avoid raising dust.

SECTION 7: Handling and storage

for safe handling

Avoid ingestion, inhalation, skin and eye contact. Minimize dust generation and accumulation. Handle in accordance with good industrial hygiene practice and any legal requirements.

Conditions for safe storage, including any incompatibilities

Suitable container: Metal can or drum. Check all containers are clearly labelled and free from leaks.

Storage incompatibility: Avoid reaction with strong acid, alkali and oxidizing agents.

SECTION 8: Exposure controls/personal protection

Control parameters

At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience). Airborne concentrations must be maintained as low as is practically possible and occupational exposure must be kept to a minimum.

Derived No Effect Level (DNEL)

Exposure Pattern	Workers	General Population
Acute - systemic effects(dermal)	40 mg/kg bw/day	20 mg/kg bw/day
Acute - systemic effects(inhalation)	70 mg/m³	17.6 mg/m³
Acute - systemic effects(oral)	No data available	10 mg/kg bw/day
Long-term - systemic effects(dermal)	5 mg/kg bw/day	2.5 mg/kg bw/day
Long-term - systemic effects(inhalation)	8.8 mg/m³	2.2 mg/m³
Long-term - systemic effects(oral)	Not data available	1.25 mg/kg bw/day

PNEC

water	PNEC aqua (freshwater): 0.027 mg/L	**sediment**	PNEC sediment (freshwater): 14.27 mg/kg sediment dw	**Stp**	PNEC stp (mg/L):3.8
	PNEC aqua (marine water): 0.0027 mg/L		PNEC sediment (marine water): 1.427mg/kg sediment dw	**Soil**	PNEC soil: 2.83 mg/kg soil dw

Exposure controls

Appropriate engineering controls Use: process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

General Personal Protection: Safety goggles or face shield, protective chemical resistant gloves, protective clothing.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Organic Solid Powder
Colour:	Cream
Odour:	Aromatic

Oduour threshold	No data available
pH:	Not applicable
Melting range	172 - 179°C
Boiling point:	Decomposes before boiling.
Flash point:	No data available
Evapotation rate:	Not applicable
Flammability (solid, gas):	Not a readily combustible solid
Upper/lower flammability:	No data available
Explosive limits:	No data available
Vapour pressure:	1.35 *10^{-9}hPa at 25°C
Relative density:	1.54 at 25°C
Bulk density	350 - 390 Kg/m^3 (Typical)
Solubility(ies):	0.27 - 0.37 mg/L at 25°C
Partition coefficient: n-octanol/water:	Log Pow: 3.4 and pH 7
Auto-ignition temperature:	Does not undergo spontaneous combustion
Viscosity:	No data available
Explosive properties:	Dust Explosion Hazard
Oxidising properties:	No data available

SECTION 10: Stability and reactivity

Reactivity

See section 7

Chemical stability

Stable under normal condition.

Possibility of hazardous reactions

See section 7

Conditions to avoid

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

Incompatible materials

See section 7

Hazardous decomposition products

Thermal decomposition products: carbon monoxide, carbon dioxide gases nitrogen oxides and sulphur dioxide fumes.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity:	Dibenzothiazole disulphide (CAS No. 120-78-5): LD50 Oral (Rat): >7940 mg/kg bw LD50 Dermal (Rabbit): >7940 mg/kg bw White mineral oil(8042-47-5): LD50 Oral (Rat): >5000mg/kg b/w LD50 Inhalation (Rat): > 5 mg/L air LD50 Dermal (Rabbit): > 2000 mg/kg b/w
Skin corrosion/irritation:	Dibenzothiazole disulphide (CAS No. 120-78-5): Skin: Not irritating White mineral oil(8042-47-5): Skin: Not irritating
Serious eye damage/irritation:	Dibenzothiazole disulphide (CAS No. 120-78-5): Eye: Not Irritating White mineral oil(8042-47-5): Eye: Not Irritating
Respiratory or skin sensitisation:	Dibenzothiazole disulphide (CAS No. 120-78-5): Skin: Sensitising White mineral oil(8042-47-5): Skin: Not Sensitising
Germ cell mutagenicity:	Dibenzothiazole disulphide (CAS No. 120-78-5): Negative White mineral oil(8042-47-5): Negative

Carcinogenicity:	Dibenzothiazole disulphide (CAS No. 120-78-5): LOAEL (rat/Oral): 375 mg/kg bw/day (male)；LOAEL:188 mg/kg bw/day (female) NOAEL (mouse): 1577 ppm (male/female) White mineral oil(8042-47-5): NOAEL: >= 1200 mg/kg bw/day
Reproductive toxicity:	Dibenzothiazole disulphide (CAS No. 120-78-5): NOAEL: 15000 ppm White mineral oil(8042-47-5): NOAEL(P): >= 2000 mg/kg bw/day
Specific target organ toxicity (single exposure):	No data available
Specific target organ toxicity (repeated exposure):	No data available
Aspiration hazard:	No data available

SECTION 12: Ecological information

Toxicity

Acute (short-term) toxicity:
Dibenzothiazole disulphide (CAS No. 120-78-5):
Fish (Salmo gairdneri): No acute toxicity of MBTS was observed to Oncorhynchus mykiss up to its water solubility.
Aquatic invertebrates (Daphnia magna): No acute toxicity of MBTS up to water solubility (<=0.3 mg/L)
Aquatic invertebrates (Daphnia magna/48h) EC50: 211 mg/L
Algae and aquatic plants (Scenedesmus subspicatus): No growth inhibition of MBTS on Desmodesmus subspicatus was observed up to its water solubility (<40mg/l)
Acute Algae toxicity (96 hr EC50) Algae Cell Count : 0.7 mg/L
White mineral oil (8042-47-5):
Fish (Oncorhynchus mykiss /96h) LC50: 60 mg/L

Persistence and degradability

Dibenzothiazole disulphide (CAS No. 120-78-5):
Abiotic Degradation: No data available
Physical- and photo-chemical elimination: No data available
Biodegradation: Not readily biodegradable

Bioaccumulative potential

Dibenzothiazole disulphide (CAS No. 120-78-5):
Partition coefficient n-octanol /water (log value) : 4.5 at pH 7
Bioconcentration factor (BCF): 1.4-51

Mobility in soil

Dibenzothiazole disulphide (CAS No. 120-78-5):
Known or predicted distribution to environmental compartments: No data available
Surface tension: No data available
Adsorption/Desorption: (log Koc): log Koc: 3.72-5.75

Other adverse effects

No data available.

SECTION 13: Disposal considerations

Waste treatment methods

Product disposal: Observe specific national regulation.

Contaminated packaging: Contaminated, empty containers must be disposed of as chemical waste.

SECTION 14: Transport information

Land transport (ADR / RID / GGVSE)

14.1 UN number	3077	14.4 Packing group	III	
14.2 UN proper shipping name	Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(contains Dibenzothiazole disulphide)	14.5 Environmental hazard	No relevant data	
14.3 Transport hazard class(es)	9	14.6 Special precautions for user	Hazard identification (Kemler)	90

Air transport (ICAO-IATA / DGR)

14.1 UN number	3077	14.4 Packing group	III
14.2 UN proper shipping name	Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains Dibenzothiazole disulphide)	14.5 Environmental hazard	No relevant data
14.3 Transport hazard class(es)	IMO/IMDG Class: 9	14.6 Special precautions for user	No data available

Maritime transport (IMDG)

14.1 UN number	3077	14.4 Packing group	III	
14.2 UN proper shipping name	Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains Dibenzothiazole disulphide)	14.5 Environmental hazard	Yes	
14.3 Transport hazard class(es)	9	14.6 Special precautions for user	EMS Number	F-A, S- F

Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code

No data available

SECTION 15: Regulatory information

Worldwide Inventory Status	
USA (TSCA)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Applicable. Listed on the DSL.
European Union (EINECS/ELINCS)	Listed
Japan (ENCS)	Listed
Korea (ECL)	Listed
Australia (AICS)	Listed
New Zealand (NZ)	Listed
Phillipines (PICCS)	Listed
China (CLECS)	Listed

SECTION 16: Other information

Chemical Name:	Dibenzothiazole disulphide

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