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

1.1. Product identifier

Product Name	MBT (M)
Chemical Name	2-Mercaptobenzothiazole
Synonym	Benzothiazole-2-thiol
CAS No	149-30-4
EC No	205-736-8
Index No	613-108-00-3
REACH registration number	01-2119485805-26-****

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

Recommended Use	Used as vulcanization accelerator in rubber goods manufacture
Uses advised against	No information available

1.3. Details of the supplier of the safety data sheet

Only representative	REACH24H CONSULTING GROUP
Address	Paramount Court, Corrig Road, Sandyford, Dublin 18, Ireland
E-mail	reach@reach24h.com
Supplier	Willing New Materials Technology Co.,Ltd.
Address	Chemical Industry-Intensive Area, Puyang, Henan, China
Postal Code	457163
Phone	+86-393-4840366
FAX	+86-393-4840346
E-mail	kuber@willingchem.com
Importer	
Address	
Postal Code	
Phone	
FAX	
E-mail	

1.4. Emergency telephone number

In China: +86-393-4840366 (Office hours available)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin sensitisation, Category 1 - H317
Hazardous to the aquatic environment — Acute Hazard, Category 1 - H400(M=1)
Hazardous to the aquatic environment — Chronic Hazard, Category 1 - H410 (M=1)

2.2. Label elements

Symbols/Pictograms	
Signal word	Warning
Hazard Statements	H317 - May cause an allergic skin reaction H410 - Very toxic to aquatic life with long lasting effects
Precautionary Statements	P280 - Wear protective gloves/protective clothing/eye protection/face protection P261 - Avoid breathing dust/fume/gas/mist/vapors/spray P273 - Avoid release to the environment P302 + P352 - IF ON SKIN: Wash with plenty of soap and water P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention P391 - Collect spillage. P405: Store locked up. P501 - Dispose of contents/ container in accordance with local/regional/national/international regulation.
EU Specific Hazard Statements	None

2.3. Other hazards

This substance does not meet the PBT criteria of REACH regulation, annex XIII
This substance does not meet the vPvB criteria of REACH regulation, annex XIII
The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

3.1 Substance

Chemical Name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-Mercaptobenzothiazole (MBT)	205-736-8	149-30-4	⩾97.0%	Skin Sens. 1 (H317) Aquatic Acute 1 (H400) (M=1) Aquatic Chronic 1 (H410) (M=1)

3.2 Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice

In all cases of doubt, or when symptoms persist, seek medical attention.

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek immediate medical attention/advice.

4.2. Most important symptoms and effects, both acute and delayed
May cause allergic skin reaction.

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.
Persons with pre-existing skin, eye, or respiratory disease may be at increased risk from the irritant or allergic properties of this material. Attending physician should treat exposed patients symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media Water spray (fog), foam or dry chemical.
Unsuitable extinguishing media Water jet.

5.2. Special hazards arising from the substance or mixture
Dust can form an explosive mixture with air. Development of hazardous combustion gases or vapours possible in the event of fire. The following may develop in event of fire: nitrogen oxides, sulfur oxides, carbon oxides.

5.3. Advice for firefighters
Do not stay in dangerous zone without self-contained breathing apparatus.
In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing. Prevent fire-fighting water from entering surface water or groundwater.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Remove all sources of ignition. Do not touch or walk through spilled material. Avoid contact with skin, eyes or clothing. Avoid generation of dust. Avoid breathing dust/fume/gas/mist/vapors/spray. Use personal protection recommended in Section 8.

6.2. Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Discharge into the environment must be avoid

6.3. Methods and material 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. Avoid creating dusty conditions and prevent wind dispersal. Use spark proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.
Small spill: Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

6.4. Reference to other sections

See Section 7 for more information
See section 8 for more information
See section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Take precautionary measures against static discharges. Avoid generation of dust. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Use personal protection recommended in Section 8.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Store away from strong oxidizing materials. Avoid exposure to direct sunlight. Keep locked up and out of reach of children. Keep away from food, drink and animal feeding stuffs. Store in accordance with local regulations.

7.3. Specific end use(s)

Apart from the uses mentioned in SECTION 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chemical Name	Latvia	France	Finland	Germany	Italy
2-Mercaptobenzothiazole (CAS #: 149-30-4)		-	-	TWA: 4 mg/m^3 Skin	-

Derived No Effect Level (DNEL)

Workers

Inhalation, Systemic effects, Long term: 8.8 mg/m³
Inhalation, Systemic effects, Acute/short term: 70.4 mg/m³
Dermal, Systemic effects, Long term: 5 mg/kg bw/day
Dermal, Systemic effects, Acute/short term: 40 mg/kg bw/day

General Population

Inhalation, Systemic effects, Long term: 2.2 mg/m³
Inhalation, Systemic effects, Acute/short term: 17.6 mg/m³
Dermal, Systemic effects, Long term: 2.5 mg/kg bw/day
Dermal, Systemic effects, Acute/short term: 20 mg/kg bw/day
Oral, Systemic effects, Long term: 1.25 mg/kg bw/day
Oral, Systemic effects, Acute/short term: 10 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

PNEC aqua (freshwater): 0.0041 mg/L
PNEC aqua (marine water): 0.00041 mg/L
PNEC aqua (intermittent, freshwater): 0.005 mg/l
PNEC STP: 0.3 mg/L
PNEC sediment (freshwater): 0.147 mg/kg sediment dw
PNEC sediment (marine water): 0.0147 mg/kg sediment dw
PNEC soil: 0.027 mg/kg soil dw

8.2. Exposure controls

Engineering Controls
Ventilation: General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product. Adequate ventilation should be provided to keep dust concentrations below acceptable exposure limits. Discharge from the ventilation system should comply with the applicable air pollutions control regulations. Eliminate ignition sources.

Personal protective equipment

Eye/face protection	Wear safety glasses or goggles to protect against exposure. Eye protection is not required during typical product use conditions.
Hand Protection	Use protective gloves. Glove material: nitrile rubber; Layer thickness: 0.11 mm; Breakthrough time: > 480 min
Skin and body protection	Suitable protective clothing.
Respiratory protection	Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect against inhalation exposure. Firefighting; use a Positive Pressure Demand Full Face Self Contained Breathing Apparatus. Required when dusts are generated. Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances
Thermal hazards	No information available.

Environmental exposure controls
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid, powder ,granule
Color	White to off-white, light yellow
Odor	Slight aromatic, pungent
Odor Threshold	Not determined
pH	pH = 7 @ 0.12 g/L H2O (25 °C)
Melting point/freezing point	180 - 182°C. (NIOSH 2004)
Boiling point/boiling range	Decomposes above 260 °C
Flammability	Not flammable
Explosive limits	Not applicable
Flash point	200 °C
Auto-ignition temperature	628 °C
Decomposition temperature	> 260 °C
Viscosity, kinematic	Not applicable
Solubility	Water: 118 mg/L(25 °C pH 7) Soluble in acetone dilute base (NaOH); Slightly soluble in ethanol;
Partition coefficient n-octanol/water (LogPow)	2.42 (pH 7) (Monsanto 1980)
Vapor Pressure	$<2.53 * 10^{-6}$ hPa @ 25°C (Monsanto, 1980).
Density/relative density	1.42 g/cm³ (20 °C) (Lide 2002)
Relative Vapor density	Not applicable
Particle characteristics	D50 = 16 µm
Explosive properties	Non explosive
Oxidizing properties	Non oxidising

9.2. Other information
Information with regard to physical hazard classes
No data available

Other safety characteristics

Volatile by Volume	< 0.5%
Ash content	0.4% max
Loss on drying	0.3% max
Residues on 63 µm sieve	0.5% max
Oil content	0 - 2.0% (Upon buyer's request)

SECTION 10: Stability and reactivity

10.1. Reactivity
Stable under normal conditions.

10.2. Chemical stability
Stable when stored at room temperature in closed, original container.
Stable under normal conditions of handling, use and transportation.

10.3. Possibility of hazardous reactions
The substance decomposes on burning producing toxic and irritating fumes (sulfur oxides, nitrogen oxides). Reacts with acids or acids fumes to produce toxic fumes (nitrogen oxides, sulfur oxides).

10.4. Conditions to avoid
Keep away from heat, sparks and flame. Dispersion of dust. Temperatures above 250 °C. Avoid contact with strong oxidants such as liquid chlorine and concentrated oxygen.

10.5. Incompatible materials
Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products
Nitrogen oxides, carbon monoxide, oxides of sulfur, irritating and toxic fumes and gases.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Acute toxicity
Not classified.

2-Mercaptobenzothiazole (149-30-4)	
LD50 oral rat	3800 mg/kg
LD50 dermal rabbit	> 7940 mg/kg
LC50 Inhalation - Rat	> 1270 mg/l air

Skin corrosion/irritation
Not irritating, rabbit.

Serious eye damage/eye irritation
Not irritating, rabbit.

Sensitization
May cause sensitization by skin contact, guinea pig.

Germ cell mutagenicity
Genotoxicity: Negative for genetic activity - in vitro tests. Negative for genetic activity - in vivo tests.

Carcinogenicity
Not classified.

2-Mercaptobenzothiazole (149-30-4)

IARC group	2A - Probably carcinogenic to humans

Reproductive toxicity
Not classified.

STOT - single exposure
Not classified.

STOT - repeated exposure
Not classified.
NOAEL = 50 mg/kg bw/day

Aspiration hazard
Not classified.

11.2. Information on other hazards

Endocrine disrupting properties
The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

Other information
No information available.

SECTION 12: Ecological information

12.1. Toxicity

Very toxic to aquatic life with long lasting effects.

2-Mercaptobenzothiazole (149-30-4)	
LC50 96h - Fish	0.73 mg/l Oncorhynchus mykiss (previous name: Salmo gairdneri)
LC50 96h - Fish	0.42 mg/l Oncorhynchus mykiss [static]
EC50 48h - Crustacea	8.5 mg/l Daphnia magna
EC50 48h - Crustacea	16.1 mg/l Daphnia magna
EC50 48h - Crustacea	0.71 mg/l Daphnia magna
EC50 72h - Algae	0.5 mg/l Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae	0.25 mg/l Pseudokirchneriella subcapitata
NOEC chronic Crustacea	0.08 mg/l Daphnia magna
NOEC chronic fish	0.041 mg/l Oncorhynchus mykiss (previous name: Salmo gairdneri)
NOEC chronic algae	0.066 mg/l Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

12.2. Persistence and degradability

According to the OECD Guideline 301C (MITI Test (I)) a degradation of 2.5% within 14 days was observed. Therefore 2-mercaptobenzothiazole is classified as not readily biodegradable (MITI, 1992).

12.3. Bioaccumulative potential

In a flow-through system for 2-mercaptobenzothiazole (MBT) a BCF of < 0.8 (0.1 mg/L) - < 8 (0.01 mg/L) was determined on Cyprinus carpio within 6 weeks (MITI 1992), and hence MBT is not bioaccumulative.

12.4. Mobility in soil

Log Koc = 2.51 – 3.13

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Endocrine disrupting properties

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

12.7. Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Disposal should be in accordance with applicable regional, national and local laws and regulations
Contaminated packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations

SECTION 14: Transport information

14.1 UN number or ID number	UN3077
14.2 UN Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,N.O.S. (2-Mercaptobenzothiazole)
14.3 Transport hazard class(es)	9
14.4 Packing Group	III
14.5 Environmental hazards	Marine pollutant
14.6 Special precautions for user	No information available
14.7 Maritime transport in bulk according to IMO instruments	Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU-Regulations

No REACH Annex XVII restrictions
Not on the REACH Candidate List
Not on the REACH Annex XIV List
Not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 july 2012 concerning the export and import of hazardous chemicals.
Not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

National regulations

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Germany

Water hazard class (WGK)	WGK 2, Significantly hazardous to water (Classification according to AwSV)

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Data sources	LOLI, ECHA
Issue Date	22-June-2018
Revision date	08-July-2024

Key or legend to abbreviations and acronyms used in the safety data sheet

TWA - TWA (time-weighted average)
STEL - STEL (Short Term Exposure Limit)
Ceiling - Maximum limit value
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Full text of H-Statements referred to under section 3

H317 - May cause an allergic skin reaction
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Disclaimer

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. 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.

-------- End of Safety Data Sheet --------