

MSDS for Zinc 2-Mercaptobenzothiazole

**** SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

Product Name: Accelerator ZMBT
Chemical Name: Zinc Salt of 2-Mercaptobenzothiazole
Synonyms: WILLING ZMBT, MZ
Company Identification: Puyang Willing Chemicals Co. LTD.
Industry and Commercial NewZone
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457063
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**** SECTION 2 – COMPOSITION INFORMATION ON INGREDIENTS ****

Number	Components/CAS#	Percent(w/w)
1	Zinc 2-Mercaptobenzothiazole/155-04-4	>80
2	2-Mercaptobenzothiazole /149-30-4	<20

Number	EC-number	Annex-1 number	Symbol(s)	Risk-phrase(s)
1	205-840-3			R 43
2	205-736-8	613-108-00-3	N Xi	R43 R50/53

**** SECTION 3 – HAZARDS IDENTIFICATION ****

Hazard Information Emergency Overview:

CAUTION! May irritate the eyes. May irritate the skin.

Eye Contact: May cause mild eye irritation. Mild Eye Irritation: signs/symptoms can include redness, swelling, pain, and tearing.

Skin Contact: May cause an allergic skin reaction. May cause a rash and itching of the skin. May cause skin defatting with prolonged exposure.

Inhalation: May cause mild respiratory irritation. Vapors given off by heated product may be harmful.

Ingestion: May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation.

**** SECTION 4 – FIRST AID MEASURES ****

In Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

On Skin: Remove contaminated clothing. Wash skin with water, using soap if available. Remove contaminated clothing and launder before reuse. Get medical attention if irritation persists.

Inhaled: Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.

Swallowed: If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Notes To Physician: Provide symptomatic/supportive care as necessary. Treatment based on sound judgment of physician and individual reactions of patient.

**** SECTION 5 – FIRE FIGHTING MEASURES ****

Flash Point (°F/C): Not Determined

Flash Point Method: Not Determined

Autoignition Temp. (°F/C): Not Determined.

Lower Explosion Limit in Air (LEL): Not Determined

Upper Explosion Limit in Air (UEL): Not Determined.

Extinguishing Media: Water fog, carbon dioxide, foam, dry chemical

Special Exposure Hazards: Fight fire from a safe distance and from a protected location. Flammable dust when in finely divided and highly suspended state. Use water spray to cool fire exposed surfaces. Do not allow runoff to enter waterways.

Special Protective Equipment: Fire fighters should wear full protective clothing, including self-contained breathing equipment:

Unusual Fire/Explosion Hazards: Toxic emissions may result if product is involved in a fire. Fire produces highly toxic sulfur dioxide gas

Other information: Do not allow run-off from fire fighting to enter drains or water courses.

**** SECTION 6 – ACCIDENTAL RELEASE MEASURES ****

Spill Procedures: Wear protective equipment specified. Avoid the generation of dust. Sweep, vacuum, or shovel and place into closable container for disposal.

Procedure for Cleaning/Absorption: Isolate area and remove sources of friction, impact, heat, low level electrical current, and RF energy. Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Scoop up and remove. Do NOT spread spilled product with water.

SAFETY DATA SHEET: According to EC-directive 2001/58/EC

**** SECTION 7 – HANDLING AND STORAGE ****

Handling: Good hygienic practices should be observed. Work clothes should be washed

seperately at the end of each work day. Disposable clothing should be discarded with material. Avoid generating or breathing dust. Avoid contact with eyes, skin and clothing. Reclose containers of unused product. Wash hands before eating, drinking, and chewing gum, using tobacco or using the toilet. Do not reuse this container.

Storage: Store closed containers in a cool, dry, well-ventilated area. Store away from strong oxidizing materials. Avoid exposure to direct sunlight.

****** SECTION 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION ******

Engineering controls Avoid dust generation: Ensure good ventilation and local exhaustion of the working area.

Exposure limits

Zinc 2-mercaptobenzothiazole WEL (TWA): 4 mg/m³ (respirable dust).

2-Mercaptobenzothiazole WEL (TWA): 4 mg/m³ (respirable dust).

OES-TWA 10.0 mg/m³ (total inhalable dust)

Personal protection

Respiratory: Avoid breathing dust. In case of insufficient ventilation, wear suitable respiratory equipment.

Hand: Wear protective gloves.

Eye: Wear safety goggles.

Skin and body: Wear suitable protective clothing.

****** SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES ******

Appearance: Off-white to pale yellow fine powder,

Odor: SLIGHT

pH: N/A

Specific Gravity: 1.7 @ 25° C

Density: 1.7

Bulk Density: 300-340 kg/m³ (Low Free MBT) 470-510 kg/m³ (Powder) 500-540 kg/m³ (Wettable Powder)

Melting Point (° F/C):572 ° F / 300° C

Boiling Point (° F/C): Not Determined

Vapor Pressure: Negligible

Vapor Density (Air=1): Not Determined

% Volatile by Volume: 0.5-2.6% (3 hrs @ 60° C)

Solubility in Water: INSOLUBLE

Other Solubility: Soluble in Dilute base (NaOH)

Viscosity: Not Applicable.

Other Data:

Zinc Content: 16-22.0%

Loss on Drying: 0.40% Max.

Residues on 63um sieve: 0.50% Max.

Molecular Weight: 397.9

Molecular Formula: C14-H8-N2-S4-Zn

****** SECTION 10 – STABILITY AND REACTIVITY ******

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

Hazardous Polymerization: Will not occur

Conditions to Avoid: Keep away from heat, sparks and flame. Dispersion of dust. Avoid contact with strong oxidants such as liquid chlorine and concentrated oxygen.

Materials to Avoid: Strong oxidizing agents. Strong acids.

Hazardous Decomposition Products: Carbon monoxide Oxides of nitrogen Oxides of sulfur
Toxic zinc metal fumes

Additional Guidelines: Not Applicable

****** SECTION 11 – TOXICOLOGICAL INFORMATION ******

Target Organs

Acute Oral LD50 (mg/kg): 7500 mg/kg

Acute Dermal LD50 (mg/kg): >7940 mg/kg

Acute Inhalation LC50 (mg/l): Not Determined

Principle Routes of Exposure: Eyes. Inhalation. Dermal - skin.

Ingestion: May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation.

Skin Contact: May cause an allergic skin reaction. May cause a rash and itching of the skin. May cause skin defatting with prolonged exposure.

Inhalation: May cause mild respiratory irritation. Vapors given off by heated product may be harmful.

Eye Contact: May cause mild eye irritation. Mild Eye Irritation: signs/symptoms can include redness, swelling, pain, and tearing.

Aggravated Conditions: Pulmonary disorders. Dermal ailments. Eye ailments.

Carcinogenicity Comment: This product or one of its ingredients present 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA. Carcinogenic: Category 3

Other: Decomposition products and fumes from vulcanization and cross-linking may cause eye, skin and respiratory sensitization. May be a skin sensitizer.

Primary Irritation Effect: Practically non-irritating

Carcinogenicity: Negative in standard tests using bacteria and yeast cells

Genotoxicity: None

Reproductive/Developmental

Toxicity: For component MBT: A National Toxicology Program (NTP) 2-year study on rats and mice concluded that there was "some evidence of carcinogenic activity" in treated rats.

**** SECTION 12 – ECOLOGICAL INFORMATION ****

Acute Fish Toxicity: 96Hr LC50 Bluegill Sunfish = 1.50 mg/l. 96Hr LC50 Fathead Minnow = 11.0 mg/l.

Acute Crustaceans Toxicity: 48Hr EC50 Daphnia Magna = 4.1 mg/l.

Acute Algae Toxicity: 96Hr EC50 Algae = 0.25 mg/l.

Octanol/Water Coefficient: Log P = 5.02 [Estimated]

Chemical Fate Information: Biodegradation based on CO2 evolution: Very Slow.

Other Information: Aquatic toxicity for components is generally moderate to high for most species.

**** SECTION 13 – DISPOSAL CONSIDERATIONS ****

Disposal of Waste Method:

This material is not a RCRA hazardous waste. Bury in a licensed landfill or burn in an approved incinerator according to federal, state, and local regulations. Empty containers should be handled in a manner not to cause dusting during collection, transportation and disposal.

Contaminated Packaging:

If empty container retains product residues, all label precautions must be observed. Store away from ignition sources. Transport with all closures in place. Return for reuse or dispose according to national or local regulations. Dispose of container according to national or local regulations.

**** SECTION 14 – TRANSPORT INFORMATION ****

Land transport (ADR/ RID)

ADR class:	9	ADR/RID packing group:	III
RID class:	9	Substance Identification No.:	3077
Hazard Identification No.:	90	UN number:	3077
TREM-Card:	3077912c01		

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
(2-mercaptobenzothiazole),(2-Mercaptobenzothiazole)

Sea transport (IMDG-code/ IMO)

IMO/IMDG code	not relevant	Class	not restricted
Packing group	not relevant	UN number	none
EMS	none	Subsidiary Risk	none
Marine pollutant	no		
Proper Shipping Name	not relevant		

Air transport (ICAO-TI/ IATA-DGR)

ICAO-TI/IATA-DGR		UN number:	3077
Class:	9	Packing group:	III

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.

(2-mercaptobenzothiazole)

****** SECTION 15 – REGULATORY INFORMATION ******

Chemical description: Zinc-2-mercaptobenzothiazole, 2-Mercaptobenzothiazole

Labelling according to EC directives

Classification based on: Tests, Calculation

R(isk) phrase(s): R 43 May cause sensitization by skin contact
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects
in the aquatic environment

S(afety) phrase(s): S 22 Do not breathe dust
S 24 Avoid contact with skin
S 37 Wear suitable gloves
S 61 Avoid release to the environment. Refer to special
instructions/Safety data sheets 2 (VwVwS, Nr. 6613)

****** SECTION 16 – ADDITIONAL INFORMATION ******

MSDS Creation Date: 02-01-2003 Revision 1.0 Revised Date: 10-13-2007.

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