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## MATERIAL SAFETY DATA SHEET

: According to EC-directive 2001/58/EC

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Rubber Accelerator MBT(M)-Solvent

HS Code: 29342000.90

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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|                            |   |
|----------------------------|---|
| <b>Product label name</b>  | 2-Mercaptobenzothiazole   |
| <b>Supplier</b>            | Qingdao YLSCH Industry&Trade Co.,Ltd<br>Room 501,2-3 Unit. No.8,Zhengzhou Road,<br>Qingdao,China.<br>TEL: +86 18661665800 |
| <b>Emergency telephone</b> | TEL: +86 18661665800  |
| <b>Intended use</b>        | Rubber Vulcanization Accelerator  |

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

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|                             |   |
|-----------------------------|---|
| <b>Chemical name</b>        | 2-硫醇基苯并噻唑<br>2-Mercaptobenzothiazole          |
| <b>CAS NO.</b>              | 149-30-4                                      |
| <b>Chemical description</b> | Light yellow powder                           |
| <b>TSCA NO.</b>             | none  |
| <b>EINECS NO.</b>           | none  |
| <b>Other information</b>    | C <sub>7</sub> H <sub>5</sub> NS <sub>2</sub> |

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### 3. HAZARDS IDENTIFICATION

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Repeated contact may cause skin sensitization. Very toxic to aquatic organisms, May cause long-term adverse effects in the aquatic environment.

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### 4. FIRST AID MEASURES

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|-----------------------------|---|
| <b>Symptoms and effects</b> | Dust may be irritating to the respiratory tract and cause symptoms of bronchitis.<br>Repeated contact may cause skin sensitization. |
| <b>First aid</b>            |   |
| <b>General</b>              | In all cases of doubt, or when symptoms persist, seek medical attention.  |

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|                            |  |
|----------------------------|--|
| <b>Inhalation</b>          | Move to fresh air. If symptoms persist, seek medical advice.   |
| <b>Skin</b>                | Remove all contaminated clothing immediately. Wash off with plenty of soap and water.<br>Seek medical advice if irritation develops. Launder clothes before reuse. |
| <b>Eye</b>                 | Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to<br>Ensure thorough rinsing. Seek medical advice if irritation develops.     |
| <b>Ingestion</b>           | Rinse mouth, give water to drink.  |
| <b>Advice to physician</b> | No specific recommendations.   |

## 5. FIRE-FIGHTING MEASURES

|   |   |
|---|---|
| <b>Extinguishing media</b>                          | Waterspray, water mist, foam, dry chemical powder, CO <sub>2</sub>                        |
| <b>Unsuitable extinguishing media</b>               | Waterjet.   |
| <b>Special exposure hazards</b>                     | Emits toxic fumes under fire conditions.  |
| <b>Hazardous decomposition/ Combustion products</b> | Carbon monoxide (CO), Sulfur oxides (SO <sub>x</sub> ), nitrous gases (NO <sub>x</sub> ). |
| <b>Protective equipment</b>                         | Wear self contained breathing apparatus.  |
| <b>Other information</b>                            | Do not allow run-off from fire fighting to enter drains or water courses.                 |

## 6. ACCIDENTAL RELEASE MEASURES

|                                  |  |
|----------------------------------|--|
| <b>Personal precautions</b>      | For personal protection see Section 8. Avoid dust generation.                        |
| <b>Environmental precautions</b> | Avoid discharge into the environment.  |
| <b>Methods for cleaning up</b>   | Collect as much as possible in a clean container for (preferable) reuse or disposal. |

## 7. HANDLING AND STORAGE

|                                      |   |
|--------------------------------------|---|
| <b>Handling</b>                      | Avoid contact with skin. Avoid dust generation.<br>The usual precautions for handling chemicals should be observed.<br>Dust/air mixtures may ignite violently upon exposure to sparks or sources of ignition. |
| <b>Fire and explosion prevention</b> | Kst: 185 bar.m/s<br>Maximum rate of pressure rise: 1060 bar/s.<br>Maximum corrected explosion pressure: 7.7 bar.  |
| <b>Storage requirements</b>          | Store in a dry and cool place.  |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

|                                      |  |
|--------------------------------------|--|
| <b>Engineering controls</b>          | Avoid dust generation.Ensure good ventilation and local exhaustion of the working area.        |
| <b>Exposure limits</b>               |  |
| <b>Name:</b> 2-Mercaptobenzothiazole | OES-TWA 5.0 mg/m <sup>3</sup>  |
| <b>Personal protection</b>           |  |
| <b>Respiratory</b>                   | Avoid breathing dust. In case of insufficient ventilation,wear suitable respiratory equipment. |
| <b>Hand</b>                          | Wear suitable gloves.  |
| <b>Eye</b>                           | Wear safety goggles.   |
| <b>Skin and body</b>                 | Wear suitable protective clothing.   |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                              |                                  |                                     |                                    |
|------------------------------|----------------------------------|-------------------------------------|------------------------------------|
| <b>Appearance</b>            | Light-yellow powder              | <b>Colour</b>                       | Light-yellow                       |
| <b>Odour</b>                 | Slightly bitter                  | <b>Boiling point</b>                | ----                               |
| <b>Melting point</b> ≥       | 167.0℃                           | <b>Flash point</b>                  | 252℃                               |
| <b>Flammability</b>          | ----                             | <b>Explosion limits</b>             | 21g/m <sup>3</sup>                 |
| <b>Explosive properties</b>  |                                  | <b>Auto ignition temperature</b>    | 650℃                               |
| <b>Oxidizing properties</b>  | ----                             | <b>Vapour pressure</b>              | ----                               |
| <b>Density</b>               | 1.42-1.52g/cm <sup>3</sup> (25℃) | <b>Bulk density</b>                 | ----                               |
| <b>Solubility in water</b>   | Insoluble in water               | <b>Solubility in other solvents</b> | Soluble in Acetone,CS <sub>2</sub> |
| <b>pH value</b>              | ----                             | <b>Partition coefficient</b>        | Active component:2.42.             |
| <b>Residues (150um)% Max</b> | 0.1(Max)                         | <b>Relative vapour density</b>      | ----                               |
| <b>Viscosity</b>             | ----                             | <b>Assay content %</b> ≥            | 96                                 |
| <b>Strength of grain(N)</b>  | ----                             | <b>Oil content%</b>                 | 1.0-2.0                            |

## 10. STABILITY AND REACTIVITY

|   |   |
|---|---|
| <b>Stability</b>                        | Stable under recommended storage and handling conditions (see section 7).   |
| <b>Conditions to avoid</b>              | Heating > 100 °C: May catch fire.   |
| <b>Materials to avoid</b>               | Strong oxidizing agents.  |
| <b>Hazardous decomposition products</b> | Thermal decomposition products: carbon monoxide (CO), nitrous gases (NO <sub>x</sub> ), Sulfur oxides (SO <sub>x</sub> ). |

## 11. TOXICOLOGICAL INFORMATION

|                       |                         |
|-----------------------|-------------------------|
| <b>Name</b>           | 2-Mercaptobenzothiazole |
| <b>Acute toxicity</b> |                         |
| <b>Oral LG50</b>      | rat:3800 mg/kg.         |
| <b>Dermal LD50</b>    | rabbit:>7940 mg/kg.     |

**Irritation**

**Skin**

Slightly irritating to skin but not sufficient for classification.

**Eye**

Slightly irritating to eyes but not sufficient for classification.

**12. ECOLOGICAL INFORMATION**

**Name** 2-Mercaptobenzothiazole

**Ecotoxicity**

96h-LC50 (Lepomis macrochirus): 1.5 mg/l.

**Fish**

96h-LC50 (Oncorhynchus mykiss): 0.75 mg/l.

96h-LC50 (Pimephales promelas): 11mg/l.

**Daphnia**

48h-EC50 (Daphnia magna): 4.1mg/l.

**Algae**

96h-IC50 (Cell count): 0.25 mg/l.

**Degradation Biotic**

Not readily biodegradable.

**13. DISPOSAL CONSIDERATIONS**

**Product**

Avoid discharge into the environment

Small quantities: According to local regulations.

Large quantities: Consult YLSCH Chemical for special advice.

**Contaminated packaging**

According to local regulations.

Waste code number: Please refer to your specific industry

**Other information**

in the European Waste Catalogue.

**14. TRANSPORT INFORMATION**

**Land transport (ADR/ RID)**

**ADR class** 9 **RID class** 9

**ADR/RID packing group** ---- **Hazard Identification No.** 90

**Substance Identification No.** 3077 **UN number** 3077

Environmentally hazardous substance, solid, n.o.s.

**Proper Shipping Name** (2-Mercaptobenzothiazole)

**Sea transport (IMDG-code/ IMO)**

|  |  |                        |      |
|--|--|------------------------|------|
| <b>Correct technical name</b>            | ----   | <b>IMDG Class</b>      |      |
| <b>UN Number</b>                         | ----   | <b>Packaging group</b> |      |
| <b>EMS Number</b>                        | ----   |                        |      |
| <b>Air transport (ICAO-TI/ IATA-DGR)</b> |  |                        |      |
| <b>ICAO-TI/IATA-DGR Class</b>            | 9  | <b>UN number</b>       | 3077 |
| <b>Packing group</b>                     | Environmentally hazardous substance, solid, n.o.s. |                        |      |
| <b>Correct technical name</b>            | (2-Mercaptobenzothiazole)                          |                        |      |

## 15. REGULATORY INFORMATION

|   |  |
|---|--|
| <b>Chemical description</b>                 | 2-Mercaptobenzothiazole  |
| <b>Labelling according to EC directives</b> |  |
| <b>EC-number</b>                            | Not relevant<br>Annex-1 to directive 67/548/EEC  |
| <b>Classification based on</b>              | R 43 May cause sensitization by skin contact<br>May cause long-term adverse effects in the aquatic environment                           |
| <b>R(isk) phrase(s)</b>                     | S 24 Avoid contact with skin<br>S 37 Wear suitable gloves<br>S 60 This material and its container must be disposed of as hazardous waste |
| <b>S(afety) phrase(s)</b>                   | S 61 Avoid release to the environment. Refer to special instruction /Safety data sheets  |
| <b>Other information</b>                    | To be displayed on the label: "EC label".  |
| <b>Wassergefährdungsklasse (WGK)</b>        | 2 (VwVwS Anhang 3, Nr. 2947)   |

## 16. OTHER INFORMATION

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.