

**MATERIAL SAFETY DATA SHEET:** According to EC-directive 2001/58/EC**Rubber Accelerator MBT (M)****HS Code: 38121000.00****1. 化学品及企业标示(CHEMICAL PRODUCT AND COMPANY IDENTIFICATION)**

|                           |                                                                                                                                                             |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 产品标签名/ Product label name | 2-硫醇基苯并噻唑<br>2-Mercaptobenzothiazole<br>深圳市华起达实业有限责任公司<br>Meyor Industrial Co.,Ltd                                                                          |
| 供应商/ Supplier             | 深圳市罗湖区中兴路, 外贸集团大厦 2610-2611 室<br>RM 2610-2611 Foreign Trade Building, Zhong Xing Road<br>Shen Zhen. China<br>TEL: +86-755-82184166<br>FAX: +86-755-82187033 |
| 紧急电话/ Emergency telephone | +86-755-82190130                                                                                                                                            |
| 产品用途/ Intended use        | 橡胶硫化促进剂/ Rubber Vulcanization accelerator                                                                                                                   |

**2. 成分/组成信息(COMPOSITION/INFORMATION ON INGREDIENTS)**

|                            |                                               |
|----------------------------|-----------------------------------------------|
| 化学名/ Chemical name         | 2-硫醇基苯并噻唑<br>2-Mercaptobenzothiazole          |
| CAS 编号/ CAS NO.            | 149-30-4                                      |
| 产品描述/ Chemical description | 淡黄色粉末/ Light yellow powder                    |
| TSCA NO.编码/ TSCA NO.       | 无/ none                                       |
| EINECS 号码/ EINECS NO.      | 无/ none                                       |
| 其他信息/ Other information    | C <sub>7</sub> H <sub>5</sub> NS <sub>2</sub> |

**3. 危险性鉴定(HAZARDS IDENTIFICATION)**

## 3.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS09 Environment  
Aquatic Acute 1  
Aquatic Chronic 1

H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.



GHS07  
Skin Sens. 1

H317 May cause an allergic skin reaction.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Sensitizing

R43:



N; Dangerous for the environment.

R50/53

Information concerning particular hazards for human and environment: Not applicable.

### 3.2 Label elements

Labeling according to Regulation (EC) No 1272/2008

The substance is classified and labeled according to the CLP regulation.

Hazard pictograms



GHS07



GHS09

Signal word: Warning

Hazard-determining components of labeling: zinc bis (diethyldithiocarbamate)

Hazard statements

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation:H400

H317 May cause an allergic skin reaction.

H410 Very Toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves and eye protection.

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.

P363 Wash contaminated clothing before reuse.

P391 Collect spillage.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations

Additional information: Contains zinc bis (zinc bis (diethyldithiocarbamate) ). May produce an allergic reaction.

### 3.3 Information pertaining to special dangers for human and environment

#### 3.3.1.The most important adverse physicochemical effects:

Not applicable.

#### 3.3.2.The most important adverse human health effects:

May cause an allergic skin reaction.

#### 3.3.3.The most important adverse environmental effects:

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

#### 3.3.4. Other adverse hazards



NFPA:Health:3

Flammability:1

Instability:0

**4. 急救措施(FIRST AID MEASURES)**

|                                    |                                                                                                                                                                                                                                     |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>症状和效果/ Symptoms and effects</b> | Dust may be irritating to the respiratory tract and cause symptoms of bronchitis.<br><br>Repeated contact may cause skin sensitization.<br><br>粉尘可能吸入呼吸道，从而导致支气管炎。<br><br>经常接触可能导致皮肤过敏。                                             |
| <b>急救/ First aid</b>               |                                                                                                                                                                                                                                     |
| <b>通常情况/ General</b>               | In all cases of doubt, or when symptoms persist, seek medical attention.<br>任何可疑情况，或有任何症状出现，请马上找医生咨询。                                                                                                                               |
| <b>吸入/ Inhalation</b>              | Move to fresh air. If symptoms persist, seek medical advice.<br>呼吸新鲜空气。如果有持续症状，请马上就医。<br><br>Remove all contaminated clothing immediately. Wash off with plenty of soap and water.                                                  |
| <b>皮肤/ Skin</b>                    | Seek medical advice if irritation develops. Launder clothes before reuse.<br>立即移走所有被污染的衣物。用肥皂和清水冲洗。<br><br>如果出现愤怒、烦躁症状请立即就医。衣物重新使用前需洗涤干净。<br>Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to |
| <b>眼睛/ Eye</b>                     | ensure thorough rinsing. Seek medical advice if irritation develops.<br>翻开眼睑用清水冲洗干净。<br><br>确保洗除残渣。如果出现愤怒症状请就医。                                                                                                                     |
| <b>摄取/ Ingestion</b>               | Rinse mouth, give water to drink.<br>请漱口，喝水。                                                                                                                                                                                        |
| <b>医生建议/ Advice to physician</b>   | No specific recommendations.<br>无详细建议。                                                                                                                                                                                              |

**5. 消防措施(FIRE-FIGHTING MEASURES)**

|                                                                          |                                                                                                                |
|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>灭火媒介/ Extinguishing media</b>                                         | Waterspray, water mist, foam, dry chemical powder, CO <sub>2</sub><br>喷物，水雾，泡沫，干粉灭火器，CO <sub>2</sub>           |
| <b>不适用的灭火媒介</b>                                                          | Waterjet.                                                                                                      |
| <b>/ Unsuitable extinguishing media</b>                                  | 水柱（流）                                                                                                          |
| <b>特殊危险/ Special exposure hazards</b>                                    | Emits toxic fumes under fire conditions.<br>在火灾情况下释放的有毒烟气。                                                     |
| <b>分解腐烂危险/燃烧产品/<br/>Hazardous decomposition/<br/>combustion products</b> | Carbon monoxide (CO), Sulfur oxides (SO <sub>x</sub> ), nitrous gases (NO <sub>x</sub> ).<br>一氧化碳，硫的氧化物，氮的氧化物。 |
| <b>保护设备/ Protective equipment</b>                                        | Wear self contained breathing apparatus.<br>需配戴空气呼吸器。                                                          |
| <b>其他信息/ Other information</b>                                           | Do not allow run-off from fire fighting to enter drains or water courses.                                      |



避免消防水接触下水道，土地或水源。

## 6. 泄露应急处理(ACCIDENTAL RELEASE MEASURES)

### 个人防范/ Personal precautions

For personal protection see Section 8. Avoid dust generation.

对于个人防范请参照第 8 部分。避免粉尘的产生。

### 环境预防/ Environmental precautions

Avoid discharge into the environment.

避免流入环境之中。

### 清洁处理方法/ Methods for cleaning up

Collect as much as possible in a clean container for (preferable) reuse or disposal.

尽可能的将其收集在清洁的容器里以便回收或集中处理。

## 7. 操作处置与储存(HANDLING AND STORAGE)

### 操作处置/ Handling

Avoid contact with skin. Avoid dust generation.

避免接触皮肤。避免粉尘。

Dust/air mixtures may ignite violently upon exposure to sparks or sources of ignition.

Kst: 185 bar.m/s.

### 火灾爆炸处理/

Maximum rate of pressure rise: 1060 bar/s.

### Fire and explosion prevention

Maximum corrected explosion pressure: 7.7 bar.

粉尘/空气 混合物可能会引起猛烈的爆炸。

Kst: 185 bar.m/s

最大压力增长速率: 1060 bar/s.

最大爆炸压力修正值 7.7 bar.

### 储存要求/ Storage requirements

Store in a dry and cool place.

储存于干燥与阴凉的地方。

## 8. 接触控制/个体防护(EXPOSURE CONTROLS/PERSONAL PROTECTION)

### 工程学控制/ Engineering controls

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

避免粉尘产生。确保当地工作场所通风。

### 暴露限制/ Exposure limits

名称/ Name: 2-硫醇基苯并噻唑

2-Mercaptobenzothiazole

OES-TWA 5.0 mg/m<sup>3</sup>

### 个体防护/ Personal protection

#### 呼吸器/ Respiratory

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

避免吸入粉尘。在通风不畅的情况下请佩戴相应的呼吸器。

#### 手/ Hand

Wear suitable gloves.

佩戴相应的长手套。

#### 眼/ Eye

Wear safety goggles.



佩戴防护眼罩。

皮肤和身体/ Skin and body

Wear suitable protective clothing.

穿戴相应的保护服装。

## 9. 物理和化学特性(PHYSICAL AND CHEMICAL PROPERTIES)

|                                  |                                    |                                          |                                                             |
|----------------------------------|------------------------------------|------------------------------------------|-------------------------------------------------------------|
| 外观/ Appearance                   | Light-yellow powder<br>淡黄色粉末       | 颜色/ Colour                               | Light-yellow<br>淡黄                                          |
| 气味/ Odour                        | Slightly bitter<br>味苦              | 沸点/ Boiling point                        | ---                                                         |
| 熔点/ Melting point $\geq$         | 170 °C                             | 闪点/ Flash point                          | 252 °C                                                      |
| 易燃性/ Flammability                | ---                                | 爆炸极限/ Explosion limits                   | 21g/m <sup>3</sup>                                          |
| 爆炸性/ Explosive properties        | ---                                | 自燃温度/ Auto ignition temperature          | 650 °C                                                      |
| 氧化性/ Oxidizing properties        | ---                                | 蒸汽压/ Vapour pressure                     | ---                                                         |
| 比重/ Density                      | 1.42-1.52g/cm <sup>3</sup> (25 °C) | 体积密度/ Bulk density                       |                                                             |
| 溶解性/ Solubility in water         | Insoluble in water<br>不溶于水         | 在其它溶剂中的溶解性/ Solubility in other solvents | Soluble in acetone CS <sub>2</sub><br>溶于丙酮, CS <sub>2</sub> |
| PH 值/ pH value                   | ---                                | 分解系数/ Partition coefficient              | Active component: 2.42.                                     |
| Residues (150um)% Max<br>筛余物 Max | 0.10                               | Assay content% $\geq$<br>纯度 % $\geq$     | 95%                                                         |
| 粘性/ Viscosity                    | ---                                | 油含量/Oil content %                        | 1.0-2.0                                                     |

## 10. 稳定性和反应性(STABILITY AND REACTIVITY)

|                                                |                                                                                                                                                            |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 稳定性/ Stability                                 | Stable under recommended storage and handling conditions<br>(see section 7).<br>推荐的稳定储存和搬运条件 (请参照第 7 部分)                                                   |
| 应避免的情况/ Conditions to avoid                    | Heating > 100 °C: May catch fire.<br>大于 100 °C:可能导致火灾。                                                                                                     |
| 应避免的物质/ Materials to avoid                     | Strong oxidizing agents.<br>强氧化剂。                                                                                                                          |
| 腐烂分解毒害性产品/<br>Hazardous decomposition products | Thermal decomposition products: carbon monoxide (CO),<br>nitrous gases (NO <sub>x</sub> ), Sulfur oxides (SO <sub>x</sub> ).<br>热分解产品: 一氧化碳, 氮的氧化物, 硫的氧化物。 |

## 11. 毒理学资料(TOXICOLOGICAL INFORMATION)

|                       |                                    |
|-----------------------|------------------------------------|
| 名称/ Name              | 2-硫醇基苯并噻唑/ 2-Mercaptobenzothiazole |
| 敏感性毒害/ Acute toxicity |                                    |



|                  |                                                                                         |
|------------------|-----------------------------------------------------------------------------------------|
| 口头的/ Oral LD50   | 老鼠/ rat: 3800 mg/kg.                                                                    |
| 皮肤的/ Dermal LD50 | 兔子/ rabbit: >7940 mg/kg.                                                                |
| 易愤怒/ Irritation  |                                                                                         |
| 皮肤/ Skin         | Slightly irritating to skin but not sufficient for classification.<br>对皮肤有轻微刺激但未达到分级阶段。 |
| 眼睛/ Eye          | Slightly irritating to eyes but not sufficient for classification.<br>对眼有轻微刺激但未达到分级阶段。  |

## 12. 生态学资料(ECOLOGICAL INFORMATION)

|                             |                                                                                                                                   |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 名称/ Name                    | 2-硫醇基苯并噻唑/2-Mercaptobenzothiazole                                                                                                 |
| 生态学/ Ecotoxicity            |                                                                                                                                   |
| 鱼/ fish                     | 96h-LC50 (Lepomis macrochirus): 1.5mg/l.<br>96h-LC50 (Oncorhynchus mykiss): 0.75mg/l.<br>96h-LC50 (Pimephales promelas): 11 mg/l. |
| 水蚤/ daphnia                 | 48h-EC50 (Daphnia magna): 4.1 mg/l.                                                                                               |
| 藻类/ algae                   | 96h-IC50 (Cell count): 0.25 mg/l.                                                                                                 |
| 初级生物/ Degradation<br>Biotic | 不能被轻易分解/ Not readily biodegradable.                                                                                               |

## 13. 废弃处理(DISPOSAL CONSIDERATIONS)

|                              |                                                                                                                                                                                                           |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 产品/ Product                  | Avoid discharge into the environment.<br>Small quantities: According to local regulations.<br>Large quantities: Consult Meyors Chemical for special advice.<br>避免流入环境。<br>小量: 根据当地规定。<br>大量: 请联系美尔化工获取建议。 |
| 包装污染/ Contaminated packaging | According to local regulations.<br>根据当地规定。                                                                                                                                                                |
| 其他信息/ Other information      | Waste code number: Please refer to your specific industry in the European Waste Catalogue.<br>消耗物代码: 请联系欧洲在消耗物领域的特殊工业。                                                                                    |

## 14. 运输信息(TRANSPORT INFORMATION)

|                                                        |                                                                                                                                  |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| D.O.T. Shipping Name                                   | Proper shipping name:<br>Environmentally<br>hazardous substance, solid, n.o.s.<br>(2-Mercaptobenzothiazole) Packaging group: III |
| Air - ICAO (international Civil Aviation Organization) | Proper shipping name: Environmentally<br>hazardous substance, solid, n.o.s.                                                      |



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|                                                     |                                                                                                                               |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
|                                                     | (2-Mercaptobenzothiazole) Packaging group: III                                                                                |
| Sea - IMDG (International Maritime Dangerous Goods) | Proper shipping name:<br>Environmentally hazardous substance, solid, n.o.s.<br>(2-Mercaptobenzothiazole) Packaging group: III |

**15. 法规信息(REGULATORY INFORMATION)**

Chemical safety Assessment has been carried out?:No

Relevant Information regarding authorization:Not applicable

Relevant Information regarding restriction:Not applicable

Other EU regulations:Employment restrictions concerning young person must be observed,

For use only by technically qualified individuals.

Other national regulations:Not applicable

**16. 其他信息(OTHER INFORMATION)**

Relevant R-phrases (number and full text):

R43 May cause sensitization by skin contact.

R50/53 Very toxic to aquatic organisms, may cause  
long-term adverse effects in the aquatic environment.

The above information has been compiled from what we believe to be credible sources. To our knowledge the information is accurate and reliable, however, it is not guaranteed. Any recommendations issued by HB Chemical personnel or literature is derived from experience and by no means should be taken as fact or construed as a recommendation to violate of any law, regulation or patent. It is the users responsibility to determine the suitability of any HB supplied material in their application. The individual conditions of each customer are well outside of our control and we cannot be held liable for its functionality and use. Please contact our office should you need specific information beyond what is supplied above. As with all Chemical usage safety precautions beyond the stated are highly recommended.