

**MATERIAL SAFETY DATA SHEET:** 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS**Rubber Accelerator TMTD****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

二硫化四甲基秋兰姆

Tetramethyl Thiuram Disulfide

深圳市华起达实业有限责任公司

Meyor Industrial Co.,Ltd

深圳市罗湖区中兴路, 外贸集团大厦 2610-2611 室

供应商/ Supplier

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产品用途/ Intended use

橡胶硫化促进剂/ Rubber Vulcanization accelerator

**2. 危险性鉴定(HAZARDS IDENTIFICATION)**

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

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

GHS08 Health hazard  
STOT RE 2

H373 May cause damage to organs through prolonged or repeated

GHS09 Environment  
Aquatic Acute 1  
Aquatic Chronic 1

H400 Very toxic to aquatic.

H410 Very toxic to aquatic life with long lasting effects.

GHS07  
Acute Tox. 4

H302 Harmful if swallowed.

Acute Tox. 4

H332 Harmful if inhaled.

Skin Irrit. 2

H315 Causes skin irritation.

Eye Irrit. 2

H319 Causes serious eye irritation.

Skin Sens. 1

H317 May cause an allergic skin reaction

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

Xn; Harmful  
R22-48/22

Harmful if swallowed. Harmful: danger of serious damage to health by prolonged exposure

Xi; Sensitizing  
R43

May cause sensitization by skin contact.

N; Dangerous for the environment.  
R50/53

Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic



### 2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008

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

#### Hazard pictograms



This pictogram only applicable for EU regulations. Not for use in the United States (OSHA GHS)



GHS07



GHS08



GHS09

Signal word: Warning

Hazard-determining components of labeling: thiram

#### Hazard statements

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

H302+H332 Harmful if swallowed or if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H373 May cause damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

#### Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P264 Wash thoroughly after handling.

P260 Do not breathe dust.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P314 Get medical advice/attention if you feel unwell.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

Additional information: Contains thiram. May produce an allergic reaction.

#### Hazard description

#### WHMIS-symbols



D2A –Very toxic material causing other toxic effects

NFPA ratings (scale 0-4)



Health = 2

Fire = 0

Reactivity = 0



HMIS ratings (scale 0-4)

HEALTH	*2
FIRE	0
REACTIVITY	0

Health = \*2

Fire = 0

Reactivity = 0

\* - Indicates a long-term health hazard from repeated or prolonged exposures.

HMIS Long Term Health Hazard Substances: Substance is not listed.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

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

化学名/ Chemical name	二硫化四甲基秋兰姆 Tetramethyl Thiuram Disulfide
CAS 编号/ CAS NO.	137-26-8
产品描述/ Chemical description	白色颗粒/ white granule
TSCA NO. 编码/ TSCA NO.	无/ none
EINECS 号码/ EINECS NO.	无/ none
其他信息/ Other information	C <sub>6</sub> H <sub>12</sub> N <sub>2</sub> S <sub>4</sub>

**4. 急救措施 (FIRST AID MEASURES)**

症状和效果/ Symptoms and effects	May cause alcohol intolerance. Harmful by inhalation and if swallowed. Repeated contact may cause skin sensitization. 可能导致对酒精不耐性, 吸入或吞食有害。 经常接触可能导致皮肤过敏。
急救/ First aid	
通常情况/ General	Do not drink alcohol after exposure.. 在接触本产品后不要马上喝酒。
吸入/ Inhalation	Move to fresh air. If symptoms persist, seek medical advice. 呼吸新鲜空气。如果有持续症状, 请马上就医。 Remove all contaminated clothing immediately. Wash off with plenty of soap and water.
皮肤/ Skin	Seek medical advice if irritation develops. Launder clothes before reuse. 立即移走所有被污染的衣物。用肥皂和清水冲洗。 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。 Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to
眼睛/ Eye	Ensure thorough rinsing. Seek medical advice if irritation develops. 翻开眼睑用清水冲洗干净。 确保洗除残渣。如果出现愤怒症状请就医。
摄取/ Ingestion	Rinse mouth, give water to drink. 请漱口, 喝水。
医生建议/ Advice to physician	No specific recommendations.



无详细建议。

## 5. 消防措施(FIRE-FIGHTING MEASURES)

灭火媒介/ Extinguishing media	waterspray, water mist, foam, dry chemical powder, CO <sub>2</sub> 喷物, 水雾, 泡沫, 干粉灭火器, CO <sub>2</sub>
不适用的灭火媒介 / Unsuitable extinguishing media	waterjet. 水注(流)
特殊危险/ Special exposure hazards	Emits toxic fumes under fire conditions. 在火灾情况下释放的有毒烟气。
分解腐烂危险/燃烧产品/ Hazardous decomposition/ combustion products	Carbon monoxide (CO), Sulfur oxides (SO <sub>x</sub> ), nitrous gases (NO <sub>x</sub> ). 一氧化碳, 硫的氧化物, 氮的氧化物。
保护设备/ Protective equipment	Wear self contained breathing apparatus. 需配戴空气呼吸器。
其他信息/ Other information	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	Do not discharge into sewer. 不要将废弃物丢到下水道。
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. Dust explosion class (VDI 2263): St 2. Kst: 239 bar.m/s. Maximum rate of pressure rise: 1060 bar/s. Maximum corrected explosion pressure: 7.4 bar. 粉尘/空气 混合物遇明火可能会引起猛烈的爆炸。 粉尘爆炸等级(VDI 2263): St 2. Kst: 239 bar.m/s. 最大压力增加速率: 1060bar/s 最大修正爆炸压力: 7.4bar.
火灾爆炸处理/ Fire and explosion prevention	Store in a dry and cool place. 储存于干燥与阴凉的地方。
储存要求/ Storage requirements	

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



<p>工程学控制/ <b>Engineering controls</b></p> <p>暴露限制/ <b>Exposure limits</b></p> <p>名称/ <b>Name:</b> 二硫化四甲基秋兰姆 <b>Tetramethyl Thiuram Disulfide</b></p> <p>个人防护/ <b>Personal protection</b></p> <p>呼吸器/ <b>Respiratory</b></p> <p>手/ <b>Hand</b></p> <p>眼/ <b>Eye</b></p> <p>皮肤和身体/ <b>Skin and body</b></p>	<p>Avoid dust generation. Ensure good ventilation and local exhaustion of the working area.</p> <p>避免粉尘产生。确保当地工作场所通风。</p> <p>OES-TWA 5.0 mg/m<sup>3</sup> OES-STEL 10.0 mg/m<sup>3</sup></p> <p>In case of insufficient ventilation, wear suitable respiratory equipment.</p> <p>在通风不畅的情况下，要佩戴相应的呼吸器具。</p> <p>Wear suitable gloves.</p> <p>佩戴防护手套</p> <p>Wear safety goggles.</p> <p>佩戴防护眼罩。</p> <p>Wear suitable protective clothing.</p> <p>穿戴相应的保护服装。</p>
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### 9. 物理和化学特性(PHYSICAL AND CHEMICAL PROPERTIES)

<p>外观/ <b>Appearance</b></p> <p>气味/ <b>Odour</b></p> <p>熔点/ <b>Melting point</b></p> <p>易燃性/ <b>Flammability</b></p> <p>爆炸性/ <b>Explosive properties</b></p> <p>氧化性/ <b>Oxidizing properties</b></p> <p>比重/ <b>Density</b></p> <p>溶解性/ <b>Solubility in water</b></p> <p>PH 值/ <b>pH value</b></p> <p>粘性/ <b>Viscosity</b></p> <p>纯度/ <b>Assay content %</b> ≥</p>	<p>white granule 白色颗粒</p> <p>Slightly amine like 稍微有点氨的气味</p> <p>142°C</p> <p>---</p> <p>Dust explosion hazard</p> <p>---</p> <p>1.42 g/cm<sup>3</sup> (20°C)</p> <p>Insoluble in water 不溶于水</p> <p>---</p> <p>---</p> <p>95</p>	<p>颜色/ <b>Colour</b></p> <p>沸点/ <b>Boiling point</b></p> <p>闪点/ <b>Flash point</b></p> <p>爆炸极限/ <b>Explosion limits</b></p> <p>自燃温度/ <b>Auto ignition temperature</b></p> <p>蒸汽压/ <b>Vapour pressure</b></p> <p>体积密度/ <b>Bulk density</b></p> <p>在其它溶剂中的溶解性 <b>Solubility in other solvents</b></p> <p>分解系数/ <b>Partition coefficient</b></p> <p>相对蒸汽密度/ (air=1) <b>Relative vapour density</b></p> <p>颗粒强度(N)<b>Strength of grain(N)</b></p>	<p>White 白色</p> <p>---</p> <p>Approx. 150 °C</p> <p>Min 10 g/m<sup>3</sup>,</p> <p>&gt; 400 °C</p> <p>---</p> <p>410-450 kg/m<sup>3</sup> (20 °C)</p> <p>acetone, aether, chloroform 丙酮, 乙醚, 氯仿</p> <p>---</p> <p>---</p> <p>0.6-2.5</p>
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### 10. 稳定性和反应性(STABILITY AND REACTIVITY)

<p>稳定性/ <b>Stability</b></p>	<p>Stable under recommended storage and handling conditions (see section 7).</p>
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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

No specific recommendations.

无特殊推荐。

应避免的物质/ Materials to avoid

Avoid exposure to: oxidizing agents, strong acid.

避免与氧化剂和强酸接触。

腐烂分解毒性产品/

No hazardous decomposition products known.

Hazardous decomposition products

无危险分解品。

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

名称/ Name 二硫化四甲基秋兰姆/ Tetramethyl Thiuram Disulfide

敏感性毒害/ Acute toxicity

口头的/ Oral LD50 老鼠/ rat: 1080 mg/kg.

皮肤的/ Dermal LD50 兔子/ rabbit: >7940 mg/kg.

吸入/Inhalation LC50 老鼠/rat: 4.42 mg/l.

易愤怒/ Irritation

皮肤/ Skin Practically non-irritating.  
几乎无刺激。

眼睛/ Eye Practically non-irritating.  
几乎无刺激。

## 12. 生态学资料(ECOLOGICAL INFORMATION)

名称/ Name 二硫化四甲基秋兰姆/ Tetramethyl Thiuram Disulfide

生态学/ Ecotoxicity

96h-LC50 (Lepomis macrochirus): 0.13mg/l.

鱼/ fish 96h-LC50 (Oncorhynchus mykiss): 0.13 mg/l.

96h-LC50 (Pimephales promelas): 0.27 mg/l.

水蚤/ daphnia 48h-EC50 (Daphnia magna): 0.24 mg/l.

藻类/ algae 96h-IC50 (Selenastrum capricornutum): 1.0 mg/l.

细菌/bacteria 15min-EC50: 1.9 mg/l (P.phosphoreum) (Lit.)

初级生物/ Degradation 不能被轻易分解/ Not readily biodegradable.

Biotic

Results of PBT and vPvB PBT: Not applicable.

assessment vPvB: Not applicable

## 13. 废弃处理(DISPOSAL CONSIDERATIONS)

产品/ Product

Avoid discharge into the environment.

Small quantities: According to local regulations.

Large quantities: Consult Meyors Chemical for special advice.

避免流入环境。





包装污染/ Contaminated packaging

其他信息/ Other information

少量：根据当地规定。

大量：请联系美尔化工获取建议。

According to local regulations.

根据当地规定。

Waste code number: Please refer to your specific industry in the European Waste Catalogue.

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)**

14.1 UN-Number	
DOT, ADR, IMDG, IATA	UN 2811
14.2 UN proper shipping name:	
DOT	Environmentally hazardous substances, solid, n.o.s. (thiram)
ADR	2811 ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID,N.O.S.(thiram)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiram), MARINE POLLUTANT
IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiram)
14.3 Transport hazard class(es)	
DOT, IMDG, IATA	
	Class:9 Miscellaneous dangerous substances and articles. Label: 9
	Class: 9 (M7) Miscellaneous dangerous substances and articles. Label: 9
14.4 Packing group	
DOT	N/A
ADR, IMDG, IATA	III
14.5 Environmental hazards	Product contains environmentally hazardous substances: thiram
Marine pollutant	Yes Symbol (fish and tree)
Special Marking (ADR)	Symbol(fish and tree)



Special Marking (IATA)	Symbol (fish and tree)
14.6. Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
Danger code (Kemler)	90
EMS Number	F-A,S-F
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.	
Transport/Additional information	
ADR	
Limited quantities (LQ)	5kg
Transport category	3
Tunnel restriction code	E
UN "Model Regulation"	UN 2811, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiram), 9, III

**15. 法规信息 (REGULATORY INFORMATION)**

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

United States (USA)	
SARA Section 355 (extremely hazardous substances)	Substance is not listed.
SARA Section 313 (Specific toxic chemical listings)	Substance is not listed.
TSCA (Toxic Substances Control Act)	Substance is listed.
Proposition 65 (California)	
Chemicals known to cause cancer	Substance is not listed.
Chemicals known to cause reproductive toxicity for females	Substance is not listed.
Chemicals known to cause reproductive toxicity for males	Substance is not listed.
Chemicals known to cause developmental toxicity	Substance is not listed.
Carcinogenic Categories	
EPA (Environmental Protection Agency)	Substance is listed.
IARC (International Agency for Research on Cancer)	97-77-8 disulfiram 3
TLV (Threshold Limit Value established by ACGIH)	97-77-8 disulfiram A4
NIOSH-Ca (National Institute for Occupational Safety and Health)	Substance is not listed.
OSHA-Ca (Occupational Safety & Health Administration)	Substance is not listed.
Canada	
Canadian Domestic Substances List (DSL)	Substance is listed.
Canadian Ingredient Disclosure list (limit 0.1%)	Substance is not listed.
Canadian Ingredient Disclosure list (limit 1%)	Substance is listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

**16. 其他信息 (OTHER INFORMATION)**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual





relationship. Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous

Goods DOT: US Department of Transportation

IATA: International Air Transport Association.

GHS: Globally Harmonized System of Classification and Labeling of

Chemicals ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical

Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection

Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System

(Canada) DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

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