

MATERIAL SAFETY DATA SHEET
According to EC-directive 93/112/EC

TMTM(TS)

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product label name Tetramethylthiuram monosulfide
Supplier Trigonal Concourse Inc.
25 Hongkong Middle Road, Qingdao 266071,
China
Tel/Fax: +86 532 85760953

2.COMPOSITION/ INFORMATION ON INGREDIENTS

This product is to be considered as a substance in conformance to EC directives.
Information on hazardous ingredients

Chemical description Tetramethylthiuram monosulfide

Composition/information on gradients

Number	% w/w	CAS-number	Chemical name
1	>96.0	97-74-5	Tetramethylthiuram monosulfide
2	1.0-2.0	8042-47-5	White mineral oil (petroleum)

Number	EC-number	Annex-1 number	Symbol(s)	Risk-phrase(s)
1	202-605-7	006-080-00-3	N Xn	R22 R43 R51/53
2	232-455-8		none	none

Other information Formula: C6H12N2S3.

3. HAZARDS IDENTIFICATION

Harmful if swallowed.
May cause sensitization by skin contact.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

Symptoms and effects Dust may be irritating to the respiratory tract and cause symptoms of bronchitis. May cause alcohol intolerance. Harmful if swallowed. Repeated contact may cause skin sensitization.

First aid

General Do not drink alcohol after exposure.
Inhalation Move to fresh air. If symptoms persist, seek medical advice.
Skin Remove all contaminated clothing immediately. Wash off with plenty of soap and water. Seek medical advice if irritation develops. Launder clothes before reuse.
Eye Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation develops
Ingestion Rinse mouth, give water to drink. Induce vomiting. Never induce vomiting in unconscious or confused persons. Seek medical advice.

Advice to physician No specific recommendation.

5. FIRE-FIGHTING MEASURES

Extinguishing media Waterspray, water mist, foam, dry chemical powder.
Unsuitable extinguish media waterjet
Special exposure hazards none known.
Hazardous decomposition/ combustion products Emits toxic fumes under fire conditions: hydrogen cyanide (HCN), sulphur dioxide (SO₂), nitrous gases (NO_x).
Protective equipment Wear self contained breathing apparatus.
Other information Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions For personal protection see Section 8.
Environmental precautions Do not flush into public water courses.
Methods for cleaning up Collect as much as possible in a clean container for (preferable) reuse or disposal.

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7. HANDLING AND STORAGE

Handling	Avoid contact with skin and eyes. Avoid dust generation.
Fire and explosion prevention	Dust generated during handling and/or storage can form explosive mixtures in air.
Storage requirements	Store in a dry and cool place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls	Ensure good ventilation and local exhaustion of the working area.
Exposure limits	No exposure limit has been established.
Name	
Tetramethylthiuram monosulfide	In this country no exposure limit has been established
Personal protection	
Respiratory	In case of insufficient ventilation, wear suitable respiratory equipment.
Hand	Wear suitable gloves with long cuffs.
Eye	Safety goggles recommended.
Skin and body	Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dust suppressed powder
Colour	light yellow
Odour	characteristic
Boiling point/range	not determined
Melting point/range	min. 104 °C
Flash point	not determined (>150 °C)
Flammability	not determined
Autoignition temperature	not determined (>200 °C)
Explosive properties	not determined
Explosion limits	not determined
Oxidizing properties	not applicable
Vapour pressure	Negligible at room temperatures
Density	1400 kg/m ³
Bulk density	400-440 kg/m ³
Solubility in water	practically insoluble
Solubility in other solvents	toluene, chloroform, CS ₂ , benzene
PH value	not determined
Partition coefficient	not determined
n-octanol/water	
Relative vapour density (air=1)	not applicable
Viscosity	not applicable

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid	Heating > 100 °C: May catch fire.
Materials to avoid	oxidizing agents. Strong acid. Nitrosating agents may form carcinogenic N-nitrosamines.
Hazardous decomposition products	Thermal decomposition products: carbon monoxide (CO), nitrous gases (NO _x), Sulfur oxides (SO _x).
Other information	During the vulcanisation process, traces of carcinogenic nitrosamines may be formed.

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11. TOXICOLOGICAL INFORMATION

Name	Tetramethylthiuram monosulfide
Acute toxicity	
Oral LD50	rat: 730-1390 mg/kg
Dermal LD50	rabbit: > 2000 mg/kg
Irritation	
Skin	Slightly irritating to skin but not sufficient for classification.
Eye	Slightly irritating to eyes but no sufficient for classification.
Sensitization	Sensitizing.
Genotoxicity	no adverse treatment related effects.
Other toxicological	Development toxicity, Carcinogenicity: no adverse treatment related
Information	effects. subacute (28 days) oral toxicity (rat): Target organs: 15 days inhalation toxicity test (rat): Target organs: liver, kidney.
	Human experience Patch testing: Sensitizing, Irritating to skin.

12. ECOLOGICAL INFORMATION

Name	Tetramethylthiuram monosulfide
Ecotoxicity	
Fish	96h-LC50 (Oncorhynchus mykiss): 2.3 mg/l. 96h-LC50 (Lepomis macrochirus): 2.6 mg/l.
Daphnia	48h-EC50 (Daphnia magna): 1.6 mg/l.
Fate	
Degradation	Not readily biodegradable

13. DISPOSAL CONSIDERATIONS

Product	Avoid discharge into the environment. Small quantities: according to local regulations. Large quantities: Consult QRC for special advice.
Contaminated packaging	According to local regulations.
Other information	Waste code number: Please refer to your specific industry in the European Waste Catalogue.

14. TRANSPORT INFORMATION

<i>Land transport (ADR/RID)</i>			
ADR class	9	ADR item number	12 c
RID class	9	RID item number	12 c
Hazard Identification No.	90	Substance Identification No.	3077
TREM-Card	CEFIC TEC(R)-90G02	UN number	3077
	MFG PRO no. 3077912c02		
Proper shipping name	Environmentally hazardous substance, solid, n.o.s. (Tetramethylthiuram monosulfide)		
<i>Sea transport (IMDG-code/IMO)</i>			
IMO/IMDG code	not restricted	Class	not restricted
Packing group	not relevant	UN number	none
EMS	not relevant	MFAG	not relevant
Marine pollutant	no		
Proper shipping name	not relevant		
<i>Air transport (ICAO-TI/IATA-DGR)</i>			
ICAO-TI/IATA-DGR)		UN number	none
Class	not restricted	Packing group	not relevant
Proper shipping name	not relevant		

SAFETY DATA SHEET

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15. REGULATORY INFORMATION

Chemical description Tetramethylthiuram monosulfide

Labeling according to EC directives

EC-number See section 2

Classification based on Annex-1 to directive 67/548/EEC



Symbol(s) HARMFUL (Xn) DANGEROUS FOR THE ENVIRONMENT (N)

R(isk) phrase(s) R 22 Harmful if swallowed
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 24 Avoid contact with skin
S 26 After contact with skin, wash immediately with plenty of soap and water
S 37 Wear suitable gloves
S 61 Avoid release to the environment. Refer to special instructions/Safety data Sheets

Other information To be displayed on the label: "EC label".

Wassergefährdungsklasse (WGK) 2 (VC1)

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.