



Safety Data Sheet (SDS)

Revision / Review Date: 6/18/14

1. Chemical Product and Company Identification

Product Name: TMTD
Distributed By: HB Chemical
1665 Enterprise Parkway
Twinsburg Oh 44087
Phone - 330-920-8023
MSDS Prepared By (w Suppliers Input): HB Chemical
Chemical Name / Family: Thiram
CAS No. 137-26-8
REACH: Not available.
Product Use: Used as rubber antioxidant.
OSHA Status: Hazardous

For emergency health, safety, and environmental information, calls 330-920-8023
For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300

2. Hazard(s) Identification

Classification of the substance:

The substance is classified as following according to 67/548/EEC and REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard statement
Acute Tox. 4 *	H332
Acute Tox. 4	H302
STOT RE 2*	H373
Eye Irrit. 2	H319
Skin Sens. 1	H317
Skin Irrit. 2	H315
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

For full text of H- phrases: see section 2.2.

67/548/EEC	
Hazards characteristics	R-Phrases
Xn	R43

Xn	R20/22
Xn	R48/22
Xi	R36/38
Xn	R43
N	R50/53

For full text of R- phrases: see section 16.

The most important adverse human health effects::

Harmful by inhalation and if swallowed, May cause damage to organs through prolonged or repeated exposure, Causes serious eye irritation, Causes skin irritation, May cause an allergic skin reaction.

The most important adverse environmental effects:

Very toxic to aquatic life with long lasting effects.

Label Elements:

Hazard Pictograms:



Signal Word:

Warning

Hazard Statement:

H332 Harmful if inhaled.
H302 Harmful if swallowed.
H373 May cause damage to organs through prolonged or repeated exposure.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.

Precautionary Statement:

H410 Very toxic to aquatic life with long lasting effects.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash hands thoroughly after handling.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P314 Get medical advice/attention if you feel unwell.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P362 Take off contaminated clothing and wash before reuse.
P391 Collect spillage.
P403 + P233 Store in a well-ventilated place.
P405 Store locked up.
P501 Dispose of contents/container to local regulations.

3. Composition / Information on Ingredients

Substance/Mixture:

Substance

Ingredients:

Chemical Name	Registration No.	CAS No.	EC No.	Concentration
Thiram	N/A	137-26-8	205-286-2	≥97.5%

4. First Aid Measures

Description of First Aid Measures:

In all cases of doubt, or when symptoms persist, seek medical attention.

Inhalation:

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

Eyes:

Remove contact lenses. Hold eyelids apart. Flush immediately with water for at least 15 minutes. Seek medical attention.

Skin:

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

Ingestion:

Rinse mouth. Give water to drink induce vomiting. Never induce vomiting in unconscious or confused persons. Always seek medical advice.

Most important symptoms and effects, both acute and delayed:

Harmful by inhalation and if swallowed. May cause damage to organs thru prolonged or repeated exposure, causes serious eye irritation. May cause respiratory irritation, causes skin irritation, May cause an allergic skin reaction.

Indication of any immediate medical attention And special treatment needed:

If skin irritation or rash occurs, get medical advice/attention.

5. Fire-Fighting Measures

Suitable Extinguishing Media:

Carbon dioxide, appropriate foam or dry chemical, water spray, Water mist.

Unsuitable Extinguishing Media:

Water jet.

Special Fire Fighting Procedures:

Firefighters must wear fire resistant protective equipment. Wear self-contained breathing apparatus and protective gloves.

Special hazards arising from the substance:

Emits toxic fumes under fire conditions; carbon monoxide (CO), Nitrous gases (NOx).

6. Accidental Release Measures

For Non-emergency personnel:

Remove ignition sources. Provide adequate ventilation. Avoid inhalation of vapor or dust. Avoid Skin and eye contact. Wear protective gloves/protective clothing/eye protection/face protection.

For emergency responders:

Wear an appropriate NIOSH/MSHA approved respirator if mist, vapor or dust is generated.

Environmental Precautions:

Avoid disposing into drainage/sewer system or directly into the aquatic environment. Keeping away from drains, surface-and ground-water and soil.

Methods for Containment and Cleaning up:

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal. Clean up affected area.

Reference to other sections:

See Section 7 for information on safe handling.
See Section 8 for information personal protection equipment.
See Section 13 for information on disposal.

Additional Information:

Wet Clean or vacuum up solids. Don't use a brush or compressed air for cleaning surfaces or clothing. Clear spills immediately.

7. Handling and Storage:

Protective measures:

Do not breathe dusts/vapor. Handle in well ventilated areas. Eliminate all sources of ignition and do not generate flames or sparks. Take precautionary measures against static discharges.

Advice on general occupational hygiene:

Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including Any incompatibilities:

Requirements for storage room and vessels. Keep in original packaging, tightly closed. Advice on storage assembly. Do not store together with foodstuffs. Do not store with Acids and bases. Further information on storage conditions: keep container tightly closed and dry in cool well ventilated place.

8. Exposure Controls / Personal Protection

<u>Exposure Controls:</u>	Occupational exposure limits: OES-1WA: 5.0 mg/al' OES-STEL:10.0 mg/m3. Additional exposure limits under the conditions of use: Not available. DNEL/DMEL and PNEC-Values: Not available
<u>Respiratory Protection:</u>	Avoid breathing dust. In case of insufficient ventilation, wear suitable respiratory equipment.
<u>Ventilation:</u>	Avoid dust generation. Ensure good ventilation and local exhaustion of the working area.
<u>Protective Gloves:</u>	Wear appreciates gloves to prevent skin exposure.
<u>Eye Protection:</u>	Wear appreciates goggles to prevent eye exposure.
<u>Skin and Body Protection:</u>	Wear suitable protective clothing to prevent skin exposure.
<u>Thermal hazards:</u>	Wear suitable protective clothing to prevent heat.
<u>Environmental exposure controls:</u>	Avoid discharge into the environment. This material and its container must be disposed of as hazardous waste. According to local regulations, Federal and official regulations.

9. Physical and Chemical Properties

<u>Appearance/Colour:</u>	White or light grayish powder or granule/White, light cream
<u>Odour/Odour threshold:</u>	Slightly amine like/Not available
<u>pH:</u>	Neutral character
<u>Melting point/range (°C):</u>	Min. 142 °c
<u>Boiling point/range (°C):</u>	Not relevant
<u>Flash point (°C):</u>	Approx. 150 °c (cleveland, open cup)
<u>Evaporation rate:</u>	Not applicable
<u>Flammability (solid, gas):</u>	Not flammable
<u>Ignition temperature (°C):</u>	>400 °c
<u>Upper/lower flammability/explosive limits:</u>	Lower Explosion Limit(LEL): 10g/m3.
<u>Minimum ignition energy:</u>	=<10mj.
<u>Limiting oxygene concentration(LOC) (V>=1m3):</u>	7.4Volc/002.
<u>Vapour pressure (20°C):</u>	Negligible at room temperatures
<u>Vapour density:</u>	Not applicable
<u>Relative Density:</u>	1425 kg/m'
<u>Bulk density (kg/m3):</u>	410-450 kg/m3
<u>Water solubility (g/l):</u>	30 ppm
<u>n-OctanolINVater (log Po/w):</u>	Not determined
<u>Auto-ignition temperature:</u>	Not available
<u>Decomposition temperature:</u>	Not available
<u>Viscosity, dynamic (m Pa s):</u>	Not determined
<u>Explosive properties:</u>	Not determined
<u>Oxidising properties:</u>	Not applicable
<u>Other information:</u>	Fat solubility(solvent— oil to be specified) etc: Soluble in

acetone, ether, chlorlformn Surface tension: Not available
Dissociation constant in water(pKa): Not available
Oxidation-reduction Potential: Not available

10. Stability and Reactivity

<u>Reactivity:</u>	This substance is stable under normal storage and handling conditions.
<u>Chemical stability:</u>	Under normal conditions, the product is stable. No hazardous reaction when handled and stored according to provisions. Hazardous reactions are not known.
<u>Possibility of hazardous reactions:</u>	Under normal conditions not hazardous reaction will occur.
<u>Incompatibility (Materials to Avoid):</u>	Avoid contact with Strong oxidizing agents, strong acid.
<u>Conditions to Avoid:</u>	No specific recommendations.
<u>Hazardous decomposition products:</u>	During the vulcanization process, traces of carcinogenic N-nitrosamines may be formed from decomposition products (amines) in the presence of nitrosating agents

11. Toxilogical Information

<u>Toxicokinetics, metabolism and distribution:</u>	Non-human toxikological data:Not available Method: Not available Dosis: Not available Routes of administration: Not available Results: Not available Absorption: Not available Distribution: Not available Metabolism: Not available Excretion: Not available
<u>Information on toxicological effects Acute toxicity:</u>	LD50(Oral, Rat): 1080 mg/kg LD50(Dermal Rabbit): > 7940 mg/kg LD50(Inhalation, Rat): 4.42 mg/l
<u>Skin corrosion/Irritation:</u>	Irritating to skin.
<u>Serious eye damage/irritation:</u>	Irritating to eyes.
<u>Respiratory or skin sensitization:</u>	May cause sensitization by skin contact.
<u>Germ cell mutagenicity:</u>	Not classified.
<u>Carcinogenicity:</u>	Not classified.
<u>Reproductive toxicity:</u>	Not classified.
<u>STOT- single exposure:</u>	Not classified.
<u>STOT-repeated exposure:</u>	Not classified.
<u>Aspiration hazard:</u>	Not classified

12. Ecological Information

Toxicity:

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	0.13 mg/l	96h	Fish	OECD 203	N/A	N/A
LC50	0.24mg/l	48h	Daphnia	OECD 202	N/A	N/A
EC50	1.0 mg/l	96h	Algae	OECD 201	N/A	N/A

Persistence and degradability: Not readily biodegradable.

Bioaccumulative potential: Not applicable.

Mobility in soil: Not available.

Results of PBT&vPvB assessment: Not available.

Other adverse effects: Not applicable.

13. Disposal Considerations

Waste treatment methods: Avoid discharge into the environment. This material and its container must be disposed of as hazardous waste. According to local regulations, Federal and official regulations.

Product/ Packaging disposal: If empty container retains product residues, all label precautions must be observed. Return for reuse or dispose according to national or local regulations.

14. Transport Information

D.O.T. Shipping Name UN Number: 3077
UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.,(Tetramethylthiuram disulfide)
Class: 9 Packaging group: III Environmental hazards: Yes

Air - ICAO (international Civil Aviation Organization) UN Number: 3077
UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.,(Tetramethylthiuram disulfide)
Class: 9 Packaging group: III Environmental hazards: Yes

Sea - IMDG (International Maritime Dangerous Goods) UN Number: 3077
UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.,(Tetramethylthiuram disulfide)
Class: 9 Packaging group: III Environmental hazards: Yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: IBC08

15. Regulatory Information

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

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

Chemical Safety Assessment has been carried out?

YES

NO

16. Other Information

Relevant R- phrases (number and full text):

R20/22 Harmful by inhalation and if swallowed.

R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

R36/38 Irritating to eyes and skin.

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.