



Safety Data Sheet (SDS)

Revision 2/ Review Date: 3/15/2019

1. Chemical Product and Company Identification

Product Name: TMTD
Distributed By: HB Chemical
1665 Enterprise Parkway
Twinsburg Oh 44087
Phone - 330-920-8023
SDS Prepared By (w Suppliers Input): HB Chemical
Chemical Name / Family: Tetramethylthiuram Disulphide
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 REGULATION (EC) no. 1272/2008:

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

Label Elements:

Hazard Pictograms:



Signal Word:

Warning

Hazard Statement:

H302: Harmful if swallowed.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H332: Harmful if inhaled.

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

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

Precautionary statement:

P260: Do not breathe dust/fume/ gas/mist/vapours/spray.

P264: Wash hands thoroughly after handling.

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/doctor if you feel unwell.

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

P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P312: Call a POISON CENTER/ doctor if you feel unwell.

P314: Get medical advice/attention if you feel unwell.

P330: Rinse mouth.

P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention.

P337 + P313: If eye irritation persists: Get medical advice/attention.

P362 + P364: Take off contaminated clothing and wash it before reuse.

P391: Collect spillage.

P501: Dispose of contents/container in accordance with local/regional/national/international regulation.

3. Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS NO.</u>	<u>EC NO.</u>	<u>Concentration</u>
Thiram	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.

<u>Skin:</u>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
<u>Ingestion:</u>	Rinse mouth. Give water to drink induce vomiting. Never induce vomiting in unconscious or confused persons. Always seek medical advice.
<u>Most important symptoms and effects, both acute and delayed:</u>	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.
<u>Indication of any immediate medical attention And special treatment needed:</u>	If skin irritation or rash occurs, get medical advice/attention.

5. Fire-Fighting Measures

<u>Suitable Extinguishing Media:</u>	Carbon dioxide, appropriate foam or dry chemical, water spray, Water mist.
<u>Unsuitable Extinguishing Media:</u>	Water jet.
<u>Special Fire Fighting Procedures:</u>	Not Flammable. Firefighters must wear fire resistant protective equipment. Wear self-contained breathing apparatus and protective gloves.
<u>Special hazards arising from the substance:</u>	Emits toxic fumes under fire conditions; carbon monoxide (CO), Nitrous gases (NOx).

6. Accidental Release Measures

<u>For Non-emergency personnel:</u>	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.
<u>For emergency responders:</u>	Wear an appropriate NIOSH/MSHA approved respirator if mist, vapor or dust is generated.
<u>Environmental Precautions:</u>	Avoid disposing into drainage/sewer system or directly into the aquatic environment. Keeping away from drains, surface-and ground-water and soil.
<u>Methods for Containment and Cleaning up:</u>	Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal. Clean up affected area.
<u>Reference to other sections:</u>	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

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value
Thiram (CAS 137-26-8)	PEL	5 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Thiram (CAS 137-26-8)	TWA	0.05mg/m ³	Inhalable fraction and vapor.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Thiram (CAS 137-26-8)	TWA	5mg/m ³

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls: Avoid dust generation. Ensure good ventilation and local exhaustion of the working area.

Exposure Controls:

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

Respiratory Protection:

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

Ventilation:

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

Protective Gloves:

Wear appropriate gloves to prevent skin exposure.

Eye Protection:

Wear appropriate 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-Octanol\Nvater (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:	Methanol: 1.84 g/L(20 °C) Petroleum ether 40-60: 0.04 g/L(20 °C)
Surface tension:	70 mN/m(21.5 °C)
Dissociation constant in water(pKa):	8.19(25°C)
Oxidation-reduction Potential:	Not available
Specific gravity:	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. Toxicological Information

<u>Information on toxicological effects Acute toxicity:</u>	LD50(Oral, Rat): 1080 mg/kg LD50(Dermal Rabbit): > 2000 mg/kg bw LD50(Inhalation, Rat): 4.42 mg/l analytical 4h
<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 0.046 mg/L	96h	Fish	OECD 203	N/A	N/A
EC50 0.38 mg/L	48h	Daphnia	OECD 202	N/A	N/A
EC50 0.065 mg/L	72h	Algae	OECD 201	N/A	N/A

Persistence and degradability: TMTD technical is classified not ready biodegradable using the closed bottle test.

Bioaccumulative potential: Not applicable.

<u>Mobility in soil:</u>	log Koc=3.3
<u>Results of PBT&vPvB assessment:</u>	The substance is not PBT / vPvB.
<u>Other adverse effects:</u>	Very toxic to aquatic life with long lasting effects.

13. Disposal Considerations

<u>Waste treatment methods:</u>	Avoid discharge into the environment. The material should be disposed of by incineration in a chemical incinerator in compliance with national and regional requirements. According to local regulations, Federal and official regulations.
<u>Product/ Packaging disposal:</u>	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

<u>D.O.T. Shipping Name</u>	UN Number: 3077 UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.,(Tetramethylthiuram disulfide) Class: 9 Packaging group: III Environmental hazards: Yes
<u>Air - ICAO (international Civil Aviation Organization)</u>	UN Number: 3077 UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.,(Tetramethylthiuram disulfide) Class: 9 Packaging group: III Environmental hazards: Yes
<u>Sea - IMDG (International Maritime Dangerous Goods)</u>	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	
United States	
SARA section 355 (extremely hazardous substances)	Substance is not listed
SARA section 313 (specific toxic chemical listing)	Substance is not listed
TSCA (Toxic Substances control Act)	ALL Components are listed
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.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4) Thiram (CAS 137-26-8) Listed.
SARA 304 Emergency release notification Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA) Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No
Hazard categories

SARA 302 Extremely hazardous substance Not listed.
SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Thiram	137-26-8	≥97.5%

Thiram 137-26-8 97.5%

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) Not regulated.
Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100) Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd.(a))
Thiram (CAS 137-26-8)

US. Massachusetts RTK - Substance List Thiram (CAS 137-26-8)

US. New Jersey Worker and Community Right-to-Know Act Thiram (CAS 137-26-8)

US. Pennsylvania Worker and Community Right-to-Know Law Thiram (CAS 137-26-8)

US. Rhode Island RTK Thiram (CAS 137-26-8)

US. California Proposition 65 Not listed.

16. Other Information

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.