

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : Westco TMTD  
 Synonyms : Thiram / Tetramethylthiuram disulfide / TMTD / Thioperoxydicarbonic diamide tetramethyl / Bis (dimethylthiocarbamoyl) disulfide

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Accelerator  
 Rubbers  
 Restrictions on use : No additional information available

#### 1.3. Supplier

Western Reserve Chemical Corporation  
 4837 Darrow Road  
 Stow, OH 44224 - USA  
 T 330 650 2244 - F 330 650 2255  
[www.wrchem.com](http://www.wrchem.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC 1 800 424 9300 USA

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS classification

Acute toxicity (oral), Category 4	H302 Harmful if swallowed.
Acute toxicity (inhalation:dust,mist) Category 4	H332 Harmful if inhaled.
Skin corrosion/irritation, Category 2	H315 Causes skin irritation.
Serious eye damage/eye irritation, Category 2A	H319 Causes serious eye irritation.
Skin sensitisation, Category 1	H317 May cause an allergic skin reaction.
Specific target organ toxicity — Repeated exposure, Category 2	H373 May cause damage to organs through prolonged or repeated exposure.
Combustible Dust	May form combustible dust concentrations in air

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-US labelling

Hazard pictograms (GHS) :



Signal word (GHS) :

Warning

Hazard statements (GHS) :

May form combustible dust concentrations in air  
 H302+H332 - Harmful if swallowed or if inhaled  
 H315 - Causes skin irritation.  
 H317 - May cause an allergic skin reaction.  
 H319 - Causes serious eye irritation.  
 H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS) :

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.  
 P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P264 - Wash hands, forearms and face 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 must not be allowed out of the workplace.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P312 - If swallowed: Call a poison center or 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

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P314 - Get medical advice/attention if you feel unwell.  
P321 - Specific treatment (see supplemental first aid instruction on this label).  
P330 - Rinse mouth.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
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.  
P363 - Wash contaminated clothing before reuse.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS\_US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS classification
Tetramethylthiuram disulfide	(CAS-No.) 137-26-8	98	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Comb. Dust
White mineral oil	(CAS-No.) 8042-47-5	< 2	Asp. Tox. 1, H304

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms, call a doctor.

First-aid measures after skin contact : Wash skin thoroughly with mild soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Drink plenty of water. Get medical advice/attention if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : May cause damage to organs through prolonged or repeated exposure.

Symptoms/effects after inhalation : Harmful if inhaled.

Symptoms/effects after skin contact : Itching. Redness. May cause an allergic skin reaction. Causes skin irritation.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray.

Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Fire hazard : Combustible Dust. Burning produces irritating, toxic and noxious fumes. Nitrogen oxides.

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Explosion hazard : Carbon oxides (CO, CO<sub>2</sub>). Sulphur oxides. Hydrogen cyanide.  
: Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Dust may form explosive mixture in air.

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid creating or spreading dust. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Use personal protective equipment as required.

#### 6.1.1. For non-emergency personnel

Protective equipment : Refer to section 8.2.  
Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Refer to section 8.2.  
Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : Recover the product by vacuuming, shovelling or sweeping. Avoid generating dust.  
Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimise generation of dust. Following recovery, flush area with water. Clean surface thoroughly to remove residual contamination.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Use personal protective equipment as required. Do not breathe dust. Do not get in eyes, on skin, or on clothing.  
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container tightly closed.  
Incompatible products : Strong oxidizers. Acids.  
Incompatible materials : Sources of ignition. Direct sunlight.  
Prohibitions on mixed storage : Keep/Store away from incompatible materials.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

<b>Westco TMTD</b>	
No additional information available	
<b>White mineral oil (8042-47-5)</b>	
No additional information available	
<b>Tetramethylthiuram disulfide (137-26-8)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Thiram
ACGIH TWA (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup>
Remark (ACGIH)	Body weight & hematologic eff; DSEN; A4 (Not classifiable as a Human Carcinogen: Agents which cause concern that they could be carcinogenic for humans but which

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	cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories)
<b>USA - OSHA - Occupational Exposure Limits</b>	
Local name	Thiram
OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Avoid creating or spreading dust. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide local exhaust or general room ventilation.

Environmental exposure controls : Prevent leakage or spillage. Prevent contaminated water run-off.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Avoid all unnecessary exposure.

#### Hand protection:

Wear suitable gloves resistant to chemical penetration. Dust impervious gloves. Industrial and professional. Perform risk assessment prior to use. Consult glove manufacturer's product information on material suitability and material thickness.

#### Eye protection:

Safety glasses with side shields. In case of dust production: protective goggles

#### Skin and body protection:

Long sleeved protective clothing. Rubber Apron. Tyvek® Gown/Coveralls

#### Respiratory protection:

In case of inadequate ventilation wear respiratory protection. Dust mask

#### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : granules. Powder.

Colour : white Gray

Odour : slight amine

Odour threshold : No data available

pH : No data available

Melting point : 142 °C

Freezing point : No data available

Boiling point : No data available

Flash point : 150 °C

Relative evaporation rate (butylacetate=1) : No data available

Flammability (solid, gas) : Non flammable.

Vapour pressure : No data available

Relative vapour density at 20 °C : No data available

Relative density : No data available

Density : 1425 kg/m<sup>3</sup>

Solubility : No data available

Log Pow : 3.88

Auto-ignition temperature : > 400 °C

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Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: Lower explosive limit (LEL): 10 g/m <sup>3</sup>
Explosive properties	: No data available
Oxidising properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known under normal conditions of use.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong oxidizers. Acids.

### 10.6. Hazardous decomposition products

During the vulcanization process, traces of carcinogenic N-nitrosamines may be formed from decomposition products (amines) in the presence of nitrosating agents.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Harmful if inhaled.

ATE (oral)	1836.735 mg/kg bodyweight
ATE (dust,mist)	3.531 mg/l/4h

#### White mineral oil (8042-47-5)

LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5 mg/l/4h

#### Tetramethylthiuram disulfide (137-26-8)

LD50 oral rat	1800 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	3.46 mg/l/4h
ATE (oral)	1800 mg/kg bodyweight
ATE (vapours)	3.46 mg/l/4h
ATE (dust,mist)	3.46 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

#### White mineral oil (8042-47-5)

NOAEL (chronic, oral, animal/male, 2 years)	> 1200 mg/kg bodyweight No carcinogenic potential observed.
Additional information	Chronic dermal: mouse: Lack of significant effects. Chronic inhalation to various animal species at 5 and 100 mg/m <sup>3</sup> doses: no adverse effects.

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<b>Tetramethylthiuram disulfide (137-26-8)</b>	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified  
STOT-single exposure : Not classified  
STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

<b>White mineral oil (8042-47-5)</b>	
NOAEL (subacute, oral, animal/male, 28 days)	> 1500 mg/kg bodyweight (dog)

<b>Tetramethylthiuram disulfide (137-26-8)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified  
Viscosity, kinematic : No data available  
Likely routes of exposure : Inhalation. Skin and eye contact.  
Symptoms/effects : May cause damage to organs through prolonged or repeated exposure.  
Symptoms/effects after inhalation : Harmful if inhaled.  
Symptoms/effects after skin contact : Itching. Redness. May cause an allergic skin reaction. Causes skin irritation.  
Symptoms/effects after eye contact : Causes serious eye irritation.  
Symptoms/effects after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Very toxic to aquatic life with long lasting effects.

<b>White mineral oil (8042-47-5)</b>	
LC50 fish 1	3841 mg/l <i>Oncorhynchus mykiss</i>

<b>Tetramethylthiuram disulfide (137-26-8)</b>	
LC50 fish 1	0.046 (0.046 – 0.54) mg/l
EC50 crustacea	0.011 (0.011 – 0.139) mg/l 48 h
EC50 other aquatic organisms 1	> 0.14 mg/l 120 h algae
NOEC (chronic)	0.0046 mg/l

### 12.2. Persistence and degradability

<b>Westco TMTD</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.

<b>Tetramethylthiuram disulfide (137-26-8)</b>	
Persistence and degradability	Not readily biodegradable.

### 12.3. Bioaccumulative potential

<b>Westco TMTD</b>	
Log Pow	3.88

### 12.4. Mobility in soil

<b>Westco TMTD</b>	
Ecology - soil	Not established.

<b>Tetramethylthiuram disulfide (137-26-8)</b>	
Partition coefficient n-octanol/water (Log Koc)	3.35 – 4.39

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Sewage disposal recommendations : Do not dispose of waste into sewer.  
Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Ecology - waste materials : Avoid release to the environment.

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### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Not regulated.

#### Transport by sea

Transport document description (IMDG) : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tetramethylthiuram disulfide), 9, III, MARINE POLLUTANT  
UN-No. (IMDG) : 3077  
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
Class (IMDG) : 9 - Miscellaneous dangerous substances and articles  
Packing group (IMDG) : III - substances presenting low danger  
Limited quantities (IMDG) : 5 kg

#### Air transport

Transport document description (IATA) : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tetramethylthiuram disulfide), 9, III  
UN-No. (IATA) : 3077  
Proper Shipping Name (IATA) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
Class (IATA) : 9 - Miscellaneous Dangerous Goods  
Packing group (IATA) : III - Minor Danger

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Tetramethylthiuram disulfide	CAS-No. 137-26-8	98%
<b>Tetramethylthiuram disulfide (137-26-8)</b>		
CERCLA RQ	10 lb	

#### 15.2. International regulations

##### CANADA

<b>White mineral oil (8042-47-5)</b>
Listed on the Canadian DSL (Domestic Substances List) inventory.
<b>Tetramethylthiuram disulfide (137-26-8)</b>
Listed on the Canadian DSL (Domestic Substances List) inventory.

#### National regulations

No additional information available

#### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
Tetramethylthiuram disulfide(137-26-8)	U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances; U.S. - Pennsylvania - RTK (Right to Know) List

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### SECTION 16: Other information

- Data sources : TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>. European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>. ACGIH (American Conference of Government Industrial Hygienists). Manufacturer Information. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition. OSHA 29CFR 1910.1200 Hazard Communication Standard. NFPA 400-2013 Hazardous Materials Code.
- Other information : None.

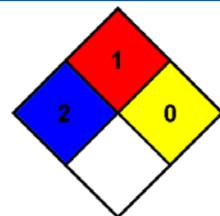
Full text of H-statements:

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
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.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

	CAS (Chemical Abstracts Service) number
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
	LD50: Lethal Dose for 50% of the test population
	STEL: Short Term Exposure Limits
	TSCA: Toxic Substances Control Act
	TWA: Time Weighted Average

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



Hazard Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
- Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
- Personal protection : J  
J - Splash goggles, Gloves, Synthetic apron, Dust & vapor respirator

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*