

WILLING CHEM Document No: PWCC-MSDS-007

MSDS for Tetramethyl Thiuram Disulfide

**** SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

Product Name: Accelerator TMTD
Chemical Name: Tetramethyl thiuram Disulfide
Synonyms: WILLING TMTD; TT
Company Identification: Puyang Willing Chemicals Co. LTD.
Industry and Commercial New Zone
Puyang, Henan, China
457163
For other information call: 00 86 21 3422 5991
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Contact: Mr. Kuber Tan

**** SECTION 2 – COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
137-26-8	Tetramethyl thiuram disulfide	>97.0	205-286-2
8042-47-5	White mineral oil	0-2	232-455-8

R(isk) phrase(s): R20/22 R36/38 R43 R48/22 R50/53

S(afety) phrase(s): S26 S36/37 S60 S61

**** SECTION 3 – HAZARDS IDENTIFICATION ****

Hazard Information Emergency Overview: WARNING! Dust may be irritating to eyes and upper respiratory tract. Fine dust clouds may form explosive mixtures with air. Highly toxic to fish and aquatic invertebrates. May cause sensitization by skin contact. May cause alcohol intolerance

Eye Contact: Causes mild eye irritation. Mild Eye Irritation: signs/symptoms can include redness, swelling, pain, and tearing.

Skin Contact: May cause an allergic skin reaction. May be absorbed through the skin and product effects similar to those caused by inhalation and/or ingestion.

Inhalation: Exposure to dust particles generated from this material may cause irritation of the

respiratory tract. Inhalation may cause alcohol intolerance

Ingestion: May cause alcohol intolerance (Ant abuse Effect) May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation.

**** SECTION 4 – FIRST AID MEASURES ****

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

On Skin: In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and laundry before reuse. Get medical attention if irritation persists.

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

Swallowed: If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Notes To Physician: Treat symptomatically. Exposure by ingestion, inhalation or skin absorption may cause alcohol intolerance (Antabuse Effect)

**** SECTION 5 – FIRE FIGHTING MEASURES****

Flash Point (°F/C): 280°F / 138°C

Flash Point Method: Pensky-Martens Open Cup

Autoignition Temp. (°F/C): Not determined

Lower Explosion Limit in Air (LEL): Not determined.

Upper Explosion Limit in Air (UEL): Not determined.

Extinguishing Media: Water fog, carbon dioxide, foam, dry chemical

Special Exposure Hazards: Fight fire from a safe distance and from a protected location. Use water spray to cool fire exposed surfaces. Decomposition in fire may produce toxic gases. Do not allow runoff to enter waterways.

Special Protective Equipment: Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

Unusual Fire/Explosion Hazards: Toxic emissions may result if product is involved in a fire.

**** SECTION 6 – ACCIDENTAL RELEASE MEASURES****

Spill Procedures: Wear protective equipment specified. Avoid the generation of dust. Sweep, vacuum, or shovel and place into closable container for disposal.

Procedure for Cleaning/Absorption: Isolate area and remove sources of friction, impact, heat, low level electrical current, and RF energy. Scoop up and remove. Do NOT spread spilled product with water.

CERCLA Reportable Quantity (RQ): Not Applicable

**** SECTION 7 – HANDLING AND STORAGE****

Handling: Avoid contact with eyes, skin and clothing. Avoid generating or breathing dust. Wash thoroughly with soap and water after handling. Wash hands before eating, drinking, and chewing gum, using tobacco or using the toilet. Reclose containers of unused product. Keep containers tightly closed when not in use. Do not reuse this container.

Storage: Store closed containers in a cool, dry, well-ventilated area. Store away from strong oxidizing materials. Avoid exposure to direct sunlight.

****** SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION******

Eye Protection: Wear safety glasses or goggles to protect against exposure.

Skin Protection: Normal work coveralls. Launder contaminated clothing before reuse.

Gloves: Use gloves as a standard industrial handling procedure. Appropriate chemical resistant gloves should be worn.

Respiratory Protection: Use in a well ventilated area. Use approved NIOSH respiratory protection if TLV exceeded Or over exposure is likely. Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect against inhalation exposure.

Ventilation: General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product.

Airborne Exposure Limits: Tetramethyl thiuram Disulfide OSHA PEL/8-Hr TWA = 5 mg/m³ ACGIH TLV/8-Hr TWA =1 mg/m³ White Mineral Oil OSHA PEL/8-Hr TWA = 5mg/m³ ACGIH TLV/8-Hr TWA =5mg/m³.

****** SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES******

Appearance:	White to off-white powder
Odor:	MILD AMINE
pH:	N/A
Specific Gravity:	1.43 @20°C
Density:	1.4
Bulk Density:	1425kg/m ³ @20°C
Melting Point (°F/C):	142-157°C
Boiling Point (°F/C):	Not determined.
Vapor Pressure:	1.725 x 10 ⁽⁻⁵⁾ mmHg @ 25°C
Vapor Density (Air=1):	Not Determined
% Volatile by Volume:	<0.5% by weight
Solubility in Water:	30 mg/l @25°C
Other Solubility:	Soluble in Benzene Carbon Disulfide Organic liquids, including fats and oils Carbon Disulfide
Viscosity:	Not determined.
Molecular Weight:	240.44
Molecular Formula:	C ₆ -H ₁₂ -N ₂ -S ₄

Other Data:

Ash content	0.3% max
Loss on drying	0.3% max
Residues on 63 µm sieve	0.50% max
Oil content	0-2% (Upon buyer's request)

****** SECTION 10 – STABILITY AND REACTIVITY******

Chemical Stability: Stable when stored at room temperature in closed, original container. Stable under normal conditions of handling, use and transportation.

Hazardous Polymerization: WILL NOT OCCUR

Conditions to Avoid: Not determined.

Materials to Avoid: Avoid contact with acidic, basic or oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide Oxides of nitrogen Oxides of sulfur

Additional Guidelines: Not Applicable

****** SECTION 11 – TOXICOLOGICAL INFORMATION******

Target Organs Acute Oral LD50 (mg/kg): 1080 mg/kg(Rat)

Acute Dermal LD50 (mg/kg): 7940 mg/kg(Rabbit)

Acute Inhalation LC50 (mg/l): 500 mg/m3 (Rat)

Principle Routes of Exposure: Dermal - skin. Inhalation.

Ingestion: May cause alcohol intolerance (Antabuse Effect) May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation.

Skin Contact: May cause an allergic skin reaction. May be absorbed through the skin and product effects similar to those caused by inhalation and/or ingestion.

Inhalation: Exposure to dust particles generated from this material may cause irritation of the respiratory tract. Inhalation may cause alcohol intolerance

Eye Contact: Causes mild eye irritation . Mild Eye Irritation: signs/symptoms can include redness, swelling, pain, and tearing.

Aggravated Conditions: Alcohol consumption problems.

Carcinogenicity Comment: This product or one of its ingredients present 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA. Carcinogenic: Category 3 NOTE: May react with nitrosating agents during rubber vulcanization to form nitrosamines. Some nitrosamines are suspect human carcinogens.

Other: Ingestion of the product may result in vomiting.

Primary Irritation Effect: Practically non-irritating

Carcinogenicity: Negative in standard tests using bacteria and yeast cells

Genotoxicity: None

Reproductive/Developmental Toxicity: No evidence of teratogenicity in animal studies using rats, mice and hamsters

****** SECTION 12 – ECOLOGICAL INFORMATION******

Acute Fish Toxicity: 96Hr LC50 Rainbow Trout 0.13 mg/l 96Hr LC50 Bluegill Sunfish 0.13 mg/l 96HrLC50 Guppy 0.27 mg/l

Acute Crustaceans Toxicity: 48Hr LC50 Daphnia Magna 0.21 mg/l

Acute Algae Toxicity: 96Hr LC50 1.00 mg/l

Octanol/Water Coefficient: 1.82 log P.

Chemical Fate Information: Hydrolysis Half-life: 9.5 hrs @ pH 3.5 108 hrs @ pH 5.7 1123 hrs @ pH 7.0 3316 hrs @ pH 8.0

Other Information: Tests indicate this material will not bioaccumulate or persist in the environment.

****** SECTION 13 – DISPOSAL CONSIDERATIONS******

Disposal of Waste Method:

This product, if disposed as received, is a non-hazardous waste. Bury in a licensed landfill or burn in an approved incinerator according to federal, state, and local regulations. Federal, state and local disposal laws and regulations will determine the proper waste disposal/recycling/reclamation procedure. Disposal requirements are dependent on the hazard classification and will vary by location and the type of disposal selected.

Contaminated Packaging:

If empty container retains product residues, all label precautions must be observed. Transport with all closures in place. Return for reuse or dispose according to national or local regulations. Do NOT reuse container. Dispose of container according to national or local regulations.

****** SECTION 14 – TRANSPORT INFORMATION******

Land transport (ADR/ RID)

ADR class: 9

RID class: 9

ADR/RID packing group: III

Hazard Identification No.: 90

Substance Identification No.: 3077

TREM-Card: 3077912c01

UN number: 3077

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Tetramethyl thiuram Monosulfide)

Sea transport (IMDG-code/ IMO)

IMO/IMDG code Class: 9

Packing group: III UN number: 3077

EMS: F-A, S-F Subsidiary Risk

Marine pollutant: yes

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Tetramethylthiuram disulfide)

Other information USA: Code of Federal Regulations, Title 49, part 172.101 App. A: Thiram Reportable quantity (RQ) 10 lbs (4.54 kgs).

Air transport (ICAO-TI/ IATA-DGR)

ICAO-TI/IATA-DGR

UN number: 2811

Class: 6.1

Packing group: III

Proper Shipping Name Environmentally hazardous substance, solid, n.o.s. (Tetramethylthiuram Disulfide)

****** SECTION 15 – REGULATORY INFORMATION******

Chemical description Tetramethylthiuram disulfide

Labelling according to EC directives

EC-number See section 2

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



Symbol(s) HARMFUL (Xn)



Symbol(s) DANGEROUS FOR THE ENVIRONMENT (N)

R(isk) phrase(s)

R 20/22 Harmful by inhalation and if swallowed

R 36/38 Irritating to eyes and skin

R 43 May cause sensitization by skin contact

R 48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

S(afety) phrase(s)

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S 36/37 Wear suitable protective clothing and gloves

S 60 This material and its container must be disposed of as hazardous waste

S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets

Other information

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

3 (VwVwS Anhang 3, Nr. 6612)

****** SECTION 16 – ADDITIONAL INFORMATION ******

MSDS Creation Date: 02-01-2003 **Revision 1.0 Revised Date:** 10-13-2007

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