

# THIRAM

THR

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b>	Solid White to light yellow
Bis(Dimethylthiocarbonyl)disulfide Methyl thiram Methyl tuads Tetramethyl thiram disulfide Thiuram	Sinks in water.
<p>Call fire department.  <b>KEEP PEOPLE AWAY. AVOID CONTACT WITH SOLID AND DUST.</b>  Wear goggles and dust respirator.  Stay upwind. Use water spray to "knock down" dust.  Notify local health and pollution control agencies.  Protect water intakes.</p>	
<b>Fire</b>	Combustible. <b>POISONOUS GASES ARE PRODUCED IN FIRE.</b> Wear goggles and self-contained breathing apparatus. Flood discharge area with water.
<b>Exposure</b>	CALL FOR MEDICAL AID. DUST <b>POISONOUS IF INHALED.</b> Irritating to eyes, nose and throat. Move victim to fresh air. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.  <b>SOLID</b> <b>POISONOUS IF SWALLOWED.</b> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. <b>IF IN EYES,</b> hold eyelids open and flush with plenty of water. <b>IF SWALLOWED</b> and victim is <b>CONSCIOUS,</b> have victim drink water or milk and have victim induce vomiting. <b>IF SWALLOWED</b> and victim is <b>UNCONSCIOUS OR HAVING CONVULSIONS,</b> do nothing except keep victim warm.
<b>Water Pollution</b>	<b>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</b> May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

### 1. CORRECTIVE RESPONSE ACTIONS

Stop discharge  
Collection Systems: Dredge

### 2. CHEMICAL DESIGNATIONS

2.1 **CG Compatibility Group:** Not listed.  
2.2 **Formula:** (CH<sub>3</sub>)<sub>2</sub>NC(S)SSC(S)N(CH<sub>3</sub>)<sub>2</sub> or C<sub>4</sub>H<sub>12</sub>N<sub>2</sub>S<sub>2</sub>  
2.3 **IMO/UN Designation:** 6.1/2771  
2.4 **DOT ID No.:** 2771  
2.5 **CAS Registry No.:** 137-26-8  
2.6 **NAERG Guide No.:** 151  
2.7 **Standard Industrial Trade Classification:** 51542

### 3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Rubber gloves; goggles; dust mask  
3.2 **Symptoms Following Exposure:** Inhalation of dust may cause respiratory irritation. Liquid irritates eyes and skin and may cause allergic eczema in sensitive individuals. Ingestion causes nausea, vomiting, and diarrhea, all of which may be persistent; paralysis may develop.  
3.3 **Treatment of Exposure:** **INHALATION:** remove victim from exposure; if breathing has stopped or is difficult, give artificial respiration and call physician. **EYES or SKIN:** wash with water; if irritation persists, consult a physician. **INGESTION:** call physician; induce vomiting and follow with gastric lavage; treatment thereafter is symptomatic and supportive; avoid fats, oils, and lipid solvents, which enhance absorption; rigorously prohibit ethyl alcohol in all forms for at least 10 days; inform doctor if patient has used alcohol within 48 hrs.  
3.4 **TLV-TWA:** 1 mg/m<sup>3</sup>  
3.5 **TLV-STEL:** Not listed.  
3.6 **TLV-Ceiling:** Not listed.  
3.7 **Toxicity by Ingestion:** Grade 2; oral LD<sub>50</sub> = 560 mg/kg (rat); 375-865 mg/kg (mammal)  
3.8 **Toxicity by Inhalation:** Currently not available.  
3.9 **Chronic Toxicity:** Causes birth defects in mice and hamsters  
3.10 **Vapor (Gas) Irritant Characteristics:** Currently not available  
3.11 **Liquid or Solid Characteristics:** Currently not available  
3.12 **Odor Threshold:** Currently not available  
3.13 **IDLH Value:** 100 mg/m<sup>3</sup>  
3.14 **OSHA PEL-TWA:** 5 mg/m<sup>3</sup>  
3.15 **OSHA PEL-STEL:** Not listed.  
3.16 **OSHA PEL-Ceiling:** Not listed.  
3.17 **EPA AEGL:** Not listed

### 4. FIRE HAZARDS

- 4.1 **Flash Point:** Not pertinent (solid)  
4.2 **Flammable Limits in Air:** Not pertinent  
4.3 **Fire Extinguishing Agents:** Water, dry chemical, carbon dioxide  
4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent  
4.5 **Special Hazards of Combustion Products:** Toxic and irritating oxides of sulfur are formed. Carbon disulfide may be formed from unburned material.  
4.6 **Behavior in Fire:** Not pertinent  
4.7 **Auto Ignition Temperature:** Currently not available  
4.8 **Electrical Hazards:** Not pertinent  
4.9 **Burning Rate:** Not pertinent  
4.10 **Adiabatic Flame Temperature:** Currently not available  
4.11 **Stoichiometric Air to Fuel Ratio:** 71.4 (calc.)  
4.12 **Flame Temperature:** Currently not available  
4.13 **Combustion Molar Ratio (Reactant to Product):** 18.0 (calc.)  
4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

### 5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction  
5.2 **Reactivity with Common Materials:** No reaction  
5.3 **Stability During Transport:** Stable  
5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent  
5.5 **Polymerization:** Not pertinent  
5.6 **Inhibitor of Polymerization:** Not pertinent

### 6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:** 0.76 ppm/96 hr/catfish/TL<sub>m</sub>/fresh water  
6.2 **Waterfowl Toxicity:** LD<sub>50</sub> = 2800 mg/kg  
6.3 **Biological Oxygen Demand (BOD):** Currently not available  
6.4 **Food Chain Concentration Potential:** None  
6.5 **GESAMP Hazard Profile:** Not listed

### 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 98% plus 2% oil  
7.2 **Storage Temperature:** Ambient  
7.3 **Inert Atmosphere:** No requirement  
7.4 **Venting:** Pressure-vacuum  
7.5 **IMO Pollution Category:** Currently not available  
7.6 **Ship Type:** Currently not available  
7.7 **Barge Hull Type:** Currently not available

### 8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Keep Away From Food  
8.2 **49 CFR Class:** 6.1  
8.3 **49 CFR Package Group:** III  
8.4 **Marine Pollutant:** No  
8.5 **NFPA Hazard Classification:** Not listed  
8.6 **EPA Reportable Quantity:** 10 pounds  
8.7 **EPA Pollution Category:** A  
8.8 **RCRA Waste Number:** U244  
8.9 **EPA FWPCA List:** Not listed

### 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Solid  
9.2 **Molecular Weight:** 240.4  
9.3 **Boiling Point at 1 atm:** Not pertinent (decomposes)  
9.4 **Freezing Point:** 288-313°F = 142-156°C = 415-429°K  
9.5 **Critical Temperature:** Not pertinent  
9.6 **Critical Pressure:** Not pertinent  
9.7 **Specific Gravity:** 1.43 at 20°C (solid)  
9.8 **Liquid Surface Tension:** Not pertinent  
9.9 **Liquid Water Interfacial Tension:** Not pertinent  
9.10 **Vapor (Gas) Specific Gravity:** Not pertinent  
9.11 **Ratio of Specific Heats of Vapor (Gas):** Not pertinent  
9.12 **Latent Heat of Vaporization:** Not pertinent  
9.13 **Heat of Combustion:** Currently not available  
9.14 **Heat of Decomposition:** Not pertinent  
9.15 **Heat of Solution:** Not pertinent  
9.16 **Heat of Polymerization:** Not pertinent  
9.17 **Heat of Fusion:** Currently not available  
9.18 **Limiting Value:** Currently not available  
9.19 **Reid Vapor Pressure:** Currently not available

### NOTES

# THIRAM

THR

9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I N S O L U B L E		N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T