

**MATERIAL SAFETY DATA SHEET****SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**COMPANY ADDRESS:** MICRO FLO COMPANY  
P.O. BOX 772099  
Memphis, TN 38117

**EMERGENCY TELEPHONE NUMBERS:**  
(800) 424-9300 (CHEMTREC, transportation and spills)  
(800) 900-4000 (Poison Control Center, human health)  
(800) 345-4735 (ASPCA, animal health)

**PRODUCT NAME** : T-METHYL 50W T&O  
**CHEMICAL NAME** : (dimethyl[1,2-phenylene)-bis(iminocarbonothioyl)]  
bis[carbamate])  
**CHEMICAL FAMILY** : Thiolophanate fungicide  
**PRODUCT CODE** : EPA Reg. No. 51036-330

**SECTION 2 - COMPOSITION, INFORMATION OF INGREDIENTS**

COMPONENT	PERCENTAGE	CAS NUMBER	OSHA PEL	ACIGH TLV
Thiophanate-methyl	50.0	23564-05-8	Not listed	Not listed

**SECTION 3 - HAZARDS IDENTIFICATION SUMMARY**

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

**EMERGENCY OVERVIEW:**

- May be harmful swallowed, inhaled or absorbed through skin.
- Causes slight eye irritation.
- Avoid breathing dusts or spray mist.
- Avoid contact with eyes, skin or clothing.
- Keep out of reach of children.

**POTENTIAL HEALTH HAZARDS:**

**EYE** - Mildly irritating to the eyes. Degree of injury will depend on the amount of material that gets into eye and the speed and thoroughness of the first aid treatment.

**SKIN** - Prolonged or repeated skin contact may cause irritation.

**INHALATION** - Spray mists or dust concentrations may be harmful if inhaled.

**INGESTATION** - May be harmful if swallowed.

**POTENTIAL PHYSICAL HAZARDS:** None known.

**ENVIRONMENTAL HAZARDS:** Toxic to wildlife and domestic animals.

**SECTION 4 - FIRST AID MEASURES**

**IF SWALLOWED:** Induce vomiting immediately by giving two glasses of water and sticking finger down throat. Call a physician. Never give anything by mouth to an unconscious person.

**IF IN EYES:** Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

**IF ON SKIN:** Immediately flush skin with plenty of water. Get medical attention if irritation persists.

**ANTIDOTE:** None known, treat symptomatically.

**SECTION 5 - FIRE FIGHTING MEASURES**

**FLASHPOINT (method):** N/A

**FLAMMABLE LIMITS (LFL-UFL):** N/A

**FIRE AND EXPLOSION HAZARD:** Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.

**EXTINGUISHING MEDIA:** Use dry chemical, carbon dioxide, sand or water spray when fighting fires involving this material.

**FIRE FIGHTING INSTRUCTIONS:** Evacuate area and fight fire upwind from a safe distance to avoid hazardous decomposition products. Dike and collect water used to fight fire to prevent environmental damage due to run off. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water run off.

**FIRE FIGHTING EQUIPMENT:** Self-contained breathing apparatus with full facepiece. Full fire fighting turn-out gear (Bunker gear).

**HAZARDOUS COMBUSTION PRODUCTS:** Unknown.

#### SECTION 6 - ACCIDENTAL RELEASE MEASURES

Clean up spills immediately, observing precautions in Section 8 of this document. Isolate spill area. Keep unnecessary and unprotected personnel from entering.

**SMALL SPILL:** Vacuum or sweep up material and place in a container for reuse or disposal.

**LARGE SPILL:** Vacuum or sweep up material and place in a container for reuse or disposal. After removal, flush contaminated area thoroughly with water. Pick up wash liquid with additional absorbent and place in a disposable container. Wear appropriate personal protection equipment.

#### SECTION 7 - HANDLING AND STORAGE

KEEP OUT OF REACH OF CHILDREN!

**HANDLING:** Use only in a well-ventilated area. Minimize dust generation and accumulation.

**STORAGE:** Store in the original container in a dry area. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. If spilled during storage or handling, sweep up spillage and dispose of in accordance with the Pesticide Disposal Instructions listed in section 13.

#### SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

**EXPOSURE LIMITS (8 HOUR TWA):** (Refer to Section 3)

**ENGINEERING CONTROLS:** Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Local exhaust ventilation may be necessary to control any air contaminants. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**PERSONAL PROTECTIVE EQUIPMENT:**

**EYE PROTECTION** - Safety glasses with side shields.

**CLOTHING** - Long-sleeved shirt and long pants, Shoes plus socks.

**GLOVES** - Waterproof gloves.

**RESPIRATOR** - During handling indoors (such as in greenhouses and enclosed plant growing areas) wear a NIOSH/MSHA approved respirator.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS:**

1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL DESCRIPTION:** Fine, light tan powder.

**ODOR:** Faint sulfur odor.

**MOLECULAR WEIGHT (technical):** 342.4

**MOLECULAR FORMULA (technical):**  $C_{12}H_{14}N_4O_4S_2$

**BULK DENSITY:** 15 - 20 lbs/ft.<sup>3</sup>

**pH:** 7.5 - 8.5

**VAPOR PRESSURE:** Unknown.

**WATER SOLUBILITY:** Technical thiophanate-methyl is insoluble in water. However, this product readily mixes and suspends in water.

SECTION 10 - STABILITY AND REACTIVITY

**CHEMICAL STABILITY:** Stable, however may decompose if heated.

**CONDITIONS TO AVOID:** Avoid exposure to high temperatures and high moisture conditions for prolonged periods.

**INCOMPATIBILITY WITH OTHER MATERIALS:** Oxidizing materials, some copper compounds, lime sulfur, highly alkaline materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of nitrogen, sulfur and carbon.

**HAZARDOUS POLYMERIZATION:** Will not undergo polymerization.

SECTION 11 - TOXICOLOGICAL INFORMATION**ACUTE TOXICITY:**

Oral LD <sub>50</sub> (rat)	-	> 5,000 mg/Kg
Dermal LD <sub>50</sub> (rat)	-	> 5,000 mg/Kg
Inhalation LC <sub>50</sub> (rat)	-	> 10.0 mg/L
Eye Irritation (rabbit)	-	Slight
Skin Irritation (rabbit)	-	Slight
Sensitization (guinea pig)	-	Non-sensitizer

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** None known.

**CARCINOGEN STATUS:**

OSHA	-	Not listed.
NTP	-	Not listed.
IARC	-	Not listed.

**MUTAGENIC DATA:** No evidence during *in vivo* or *in vitro* studies.

**ADDITIONAL DATA:** Not known to exhibit reproductive or teratogenic (birth defect) effects.

SECTION 12 - ECOLOGICAL INFORMATION

**ENVIRONMENTAL SUMMARY:** This pesticide is toxic to fish. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply where runoff is likely to occur. Do not contaminate water when disposing of equipment washwaters.

**FISH TOXICITY:** (Technical)

96 hour LC<sub>50</sub>, Rainbow trout - 7.8 ug/L

**AVIAN TOXICITY:** (Technical)

Oral LD<sub>50</sub>, Bobwhite quail - >5,000 mg/Kg

**BEE TOXICITY:** Non-toxic.

SECTION 13 - DISPOSAL CONSIDERATIONS

**WASTE:** Pesticide wastes are hazardous. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Dispose of in accordance with applicable Federal, state and local regulations.

**CONTAINER:** After bag has been emptied, dispose of empty bag in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**SECTION 14 - TRANSPORT INFORMATION**

DOT SHIPPING DESCRIPTION: Agricultural Fungicide, Solid, N.O.I.B.N.  
DOT HAZARD CLASS: N/A  
UN NUMBER: N/A  
DOT PACKING GROUP: N/A  
DOT PRIMARY/SECONDARY LABEL: N/A  
DOT PRIMARY/SECONDARY PLACARD: N/A  
DOT EMERGENCY RESPONSE GUIDE #: N/A

**SECTION 15 - REGULATORY INFORMATION**

FIFRA: All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act. The regulatory information presented below is pertinent only when this product is handled outside of the normal use and application as a pesticide.

OSHA HAZARD COMMUNICATION STANDARD STATUS: Regulated  
CERCLA REPORTABLE QUANTITY: None.  
SARA TITLE III STATUS:  
302 Extremely Hazardous Substance - No  
311/312 Hazard Categories - Immediate  
313 Toxic Chemicals - Thiophanate Methyl  
CALIFORNIA PROP 65 STATUS: Listed (Reproductive Toxin)

**SECTION 16 - OTHER INFORMATION**

DISCLAIMER: The information presented herein is based on available data from reliable sources and is correct to the best of Micro Flo's knowledge. Micro Flo makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

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