

# Armor Tech

## TM 462 Fungicide

### MATERIAL SAFETY DATA SHEET

#### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** TM 462 Fungicide  
**Active Ingredient:** Thiophanate-methyl  
**Chemical Formula:**  $C_{12}H_{14}N_4O_4S_2$

#### COMPANY IDENTIFICATION:

Gro-Pro LLC  
2214 Hwy 44 West  
Inverness, FL 34453  
UNITED STATES  
www.gro-pro.com

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Thiophanate-methyl	CAS No. 23564-05-8	46.2%
Other Ingredients		53.8%

#### 3. HAZARD IDENTIFICATION

##### EMERGENCY OVERVIEW

Causes moderate eye irritation. Harmful if swallowed or inhaled. Harmful if absorbed through skin. Avoid breathing spray mist. Avoid contact with eyes, skin or clothing.

#### POTENTIAL HEALTH EFFECTS:

**EYES:** Causes eye irritation.

**SKIN:** Not known to be a skin irritant. Harmful if absorbed through the skin.

**SKIN ABSORPTION:** Absorption through intact skin may contribute to exposure.

**INGESTION:** Mildly toxic by ingestion. The degree of injury will depend on the amount absorbed from the gastrointestinal tract.

**INHALATION:** Excessive inhalation of dust may cause irritation and coughing.

**CHRONIC:** No known chronic effects.

#### 4. FIRST AID

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

#### 5. FIRE-FIGHTING MEASURES

**Flash Point (Method):** Not flammable

**Flammable Limits:** N/A

**Fire and Explosion Hazard:** None

**Means of Extinguishing:** Use means suitable for extinguishing surrounding fire.

**Fire Fighting Instructions:** Evacuate area. Flood with water. To fight larger fires, wear full protective clothing and NIOSH approved self-contained breathing apparatus with full-facepiece operated in the pressure/demand mode.

**Manufactured for:**  
Gro-Pro LLC  
2214 Hwy 44 West  
Inverness, FL 34453  
www.gro-pro.com

**Emergency Phone: Chemtrec 800-424-9300**  
Effective Date: January, 2006  
EPA Reg. No. 79676-11



**Hazardous Combustion Products:** Toxic oxides of sulfur and nitrogen.

**NFPA Codes:** Health: 2 Fire: 0 Reactivity: 1

## 6. ACCIDENTAL RELEASE MEASURES

Ventilate area. Cleanup personnel require protective clothing and respiratory protection. Avoid dusting or misting condition during cleanup. If material is uncontaminated, collect and reuse as recommended for product. If contaminated, put in appropriate container and dispose according to local, state or Federal regulations. Keep spills away from drinking supplies. After spill cleanup, flush area with water.

If spilled during storage or handling, absorb with sand or other inert material and dispose of absorbent in accordance with the Pesticide Disposal instructions provided on the product label.

## 7. HANDLING AND STORAGE

**HANDLING:** Wash hands before eating, drinking, chewing gum, using tobacco or using toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing.

**STORAGE:** Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal. Store in original container in a dry, temperature controlled area.

OSHA PEL: None

ACGIH TLV: None

The ACGIH Threshold Limit Values (TLV) for nuisance (inert) dusts containing <1% crystalline silica and no asbestos are: 10 mg/m<sup>3</sup> inhalable particulates and 3 mg/m<sup>3</sup> respirable particulate. The OSHA TLV is 15 mg/m<sup>3</sup> total dust, 5 mg/m<sup>3</sup> respirable fraction.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**ENGINEERING CONTROLS:** None required for routine outdoor use. A local exhaust system that captures the contaminant at its source is recommended to prevent dispersion of the contaminant into the workroom air.

### PERSONAL PROTECTIVE EQUIPMENT:

**When preparing or applying this product, refer to the product label for specific PPE instructions.**

**Eyes and Face:** Use of chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible is recommended. Running water/eyewash station should be available in case material gets in eyes.

**Skin:** See Protective Clothing below.

**Respiratory Protection:** None required for routine outdoor use. For exposures in enclosed areas, a respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C) or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G).

**Protective Clothing:** Refer to the product label for additional information. Clean body-covering clothing should be worn. Applicators and other handlers must wear long-sleeved shirt and long pants, chemical resistant gloves such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils or viton ≥ 14 mils and shoes plus socks.

**OTHER USE PRECAUTIONS:** Maintain an eye wash station in the area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Opaque liquid

**Odor:** Characteristic

**pH:** 5.08

**Viscosity:** 275.358 cSt (20°C); 146.736 cSt (40°C)

**Density:** 1.208 g/ml @ 20°C

**Solubility in Water:** Dispersible

## 10. STABILITY AND REACTIVITY

**CONDITIONS TO AVOID:** Extreme heat. Contact with strong oxidizers, acids, bases, and salt suspensions.

**CHEMICAL STABILITY:** Stable

**CHEMICAL INCOMPATIBILITY:** Strong oxidizers, acids, bases, and salt suspensions

**HAZARDOUS POLYMERIZATION:** Will not occur

## 11. TOXICOLOGICAL INFORMATION

### ACUTE ORAL TOXICITY

Oral LD<sub>50</sub> (female rat): 1750 mg/kg

### ACUTE DERMAL TOXICITY

Dermal LD<sub>50</sub> (rat): > 5000 mg/kg

### ACUTE INHALATION TOXICITY

Inhalation LC<sub>50</sub> (rat): > 2.05 mg/L

### EYE IRRITATION

Rabbit: Mildly irritating

### SKIN IRRITATION

Rabbit: Slightly irritating

### DERMAL SENSITIZATION

Guinea pig: Not a contact sensitizer

**ROUTES OF ENTRY:** Respiratory tract and gastrointestinal tract.

### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Persons with pre-existing skin disorders or impaired respiratory function may be more susceptible to the effects of this substance.

### CARCINOGENICITY:

IARC: Not listed

NTP: Not listed

OSHA: Not listed

OTHER: (ACGIH) Not listed

## 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL INFORMATION:** 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 by disposing of equipment washwaters.

**ECOTOXICOLOGICAL INFORMATION:** The following ecotoxicity values were obtained for the active ingredient:

### FISH TOXICITY

96 hour LC<sub>50</sub> (Trout): 8.3 ppm

48 hour LC<sub>50</sub> (Daphnia): 5.4 ppm

96 hour LC<sub>50</sub> (Sheepshead minnow): 17 ppm

96 hour LC<sub>50</sub> (Mysid shrimp): 1.1 ppm

### AVIAN TOXICITY

Dietary LC<sub>50</sub> (Mallard): > 10,000 ppm

### 13. DISPOSAL CONSIDERATIONS

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### 14. TRANSPORT INFORMATION

DOT HAZARD CLASS OR DIVISION: Not Regulated

U.S. DOT PROPER SHIPPING NAME: N/A

UN NUMBER: N/A

DOT PACKING GROUP: N/A

REPORTABLE QUANTITY: None

MARINE POLLUTANT: Not listed

U.S. SURFACE FREIGHT CLASS: Agricultural Fungicides, Liquid, NOIBN

### 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.

CERCLA REPORTABLE QUANTITY –  
Thiophanate-methyl: 1 lb.

SARA Title III – Section 302 Extremely Hazardous Substances  
Not listed

SARA Title III – Section 311 Hazard Categories  
Immediate

SARA Title III – Section 312 Threshold Planning Quantity  
The threshold planning quantity (TPQ) for this product treated as a mixture is 10,000 lbs. This product contains no ingredients with a TPQ of less than 10,000 lbs.

SARA Title III – Section 313 Reportable Ingredients  
Thiophanate-methyl (23564-05-8)

CALIFORNIA PROP 65 STATUS –

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

### 16. OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.

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