



MATERIAL SAFETY DATA SHEET #3042-1

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I. PRODUCT IDENTIFICATION

PRODUCT NAME: LESCO[®] T-Storm[™] Flowable Turf & Ornamental Fungicide

Chemical Family: Thiophanate-methyl

Chemical Name/Synonyms: Thiophanate-methyl; T-Methyl; dimethyl [(1,2-phenylene)bis(iminocarbonothioyl)] bis(carbamate)

II. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	% (by/wt.)	CAS #	PEL/TLV
Thiophanate-methyl	46.2	23564-05-8	NE
Other ingredients, including: Propylene Glycol	53.8	57-55-6	10 mg/m ³

Substances not 'Hazardous' per OSHA Hazard Communication Standard (29 CFR 1910.1200) may be listed. Where proprietary ingredient shows, the identify may be made available as provided in this standard

III. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Primary Route(s) of Entry: Eyes; Skin; Ingestion, Inhalation

POTENTIAL HEALTH EFFECTS: Caution. Keep out of reach of children. Causes moderate eye irritation. Harmful if swallowed, inhaled or absorbed through skin. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist.

EYE: Mildly irritating

SKIN: Minimally toxic and slightly irritating

INHALATION: Low inhalation toxicity

INGESTION: Slightly toxic if ingested

MEDICAL CONDITIONS AGGRAVATED: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

POTENTIAL ENVIRONMENTAL HAZARDS: Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

IV. FIRST AID MEASURES

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 of treatment advice.

SKIN: 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.

INHALATION: 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.

INGESTION: 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.

V. FIRE FIGHTING MEASURES

Flash Point (Method Used): NA

Lower Explosion Limits: ND

NFPA/HMIS Rating: Health: 1

Auto Ignition Temperature: ND

Upper Explosion Limits: ND

Fire: 1

Reactivity: 0

EXTINGUISHING MEDIA:**Large Fires:**

Foam Alcohol Foam CO₂ Dry Chemical Water Spray
 Other

Small Fires:

Foam Alcohol Foam CO₂ Dry Chemical Water Spray
 Other

UNUSUAL FIRE AND EXPLOSION HAZARDS: If water is used to fight fire, contain runoff, using dikes, to prevent contamination of water supplies. Dispose of fire control water later.

FIRE FIGHTING PROCEDURES: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

HAZARDOUS DECOMPOSITION PRODUCTS (under fire conditions): May produce oxides of carbon, nitrogen and sulfur.

VI. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: If material is spilled, wear appropriate protective gear for the situation (See Personal Protection information in Section VIII). Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal. Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Pump any free liquid into an appropriate closed container. Collect washings for disposal.

Decontaminate tools and equipment following cleanup.

Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

VII. HANDLING AND STORAGE

GENERAL PROCEDURES:

Store in original container in a dry, temperature controlled area. Do not contaminate water, food, or feed by storage or disposal.

Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/Personal protective Equipment (PPE) 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. As soon as possible, wash thoroughly and change into clean closing. Keep out of reach of children.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

PERSONAL PROTECTION EQUIPMENT:

EYES AND FACE: Not normally required. To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

RESPIRATORY: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

GLOVES: Chemical-resistant gloves

PROTECTIVE CLOTHING: Handlers mixing, loading and applying the product as a dip must wear coveralls over long-sleeved shirt and long pants, chemical-resistant footwear plus socks, chemical-resistant gloves and chemical-resistant apron. All other mixers, loaders and applicators must wear long pants and long-sleeved shirt, shoes plus socks; chemical-resistant gloves for all mixers and loaders and for applicators using hand held equipment and chemical-resistant apron for mixers, loaders and other handlers exposed to the concentrate. An emergency shower or water supply should be readily accessible to the work area.

WORK HYGIENIC PRACTICES: Do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

IX. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: ND

MELTING POINT: NA

VAPOR DENSITY (air = 1): ND

ODOR: Slight

APPEARANCE: Opaque-colored liquid

pH: 5 – 6 (1% solution)

SPECIFIC GRAVITY: 1.208 @ 20°C

EVAPORATION RATE: ND

VAPOR PRESSURE: ND

SOLUBILITY IN WATER: Dispersible

VISCOOSITY: 273.358 cSt @ 20°C

DENSITY: 10.0 lbs/gal

X. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Excessive heat. Do not store near heat or flame.

STABILITY: Stable

POLYMERIZATION: Will not occur

INCOMPATIBLE MATERIALS: Strong oxidizing agents: bases and acids

HAZARDOUS DECOMPOSITION PRODUCTS: Under fire conditions may produce oxides of carbon, nitrogen and sulfur.

XI. TOXICOLOGICAL INFORMATION

EYE EFFECTS: (Rabbit) Mildly irritating

SKIN EFFECTS: (Rabbit) Slightly irritating

DERMAL LC₅₀: (Rat) >5000 mg/kg

ORAL LD₅₀: (Rat, female) 1750 mg/kg (estimated based on mortalities for doses tested)

INHALATION LC₅₀: (Rat 4-hour) >2.05 mg/L

SENSITIZATION: (Guinea pig) Not a contact sensitizer

ACUTE EFFECTS FROM OVEREXPOSURE: Repeated overexposure to thiophanate methyl may cause mild anemia and affect the liver and thyroid. Overexposure to propylene glycol has been associated with kidney toxicity, liver toxicity (animals) and lactic acidosis. Very high dose acute exposure may result in CNS and cardiac effects.

CHRONIC EFFECTS FROM OVEREXPOSURE: Prolonged overexposure to thiophanate methyl may affect the liver and thyroid. Thiophanate methyl produced dose-dependent increases in benign liver tumors in mice and thyroid tumors in rats. Overexposure to propylene glycol has been associated with kidney toxicity, liver toxicity (animals) and lactic acidosis.

CARCINOGENICITY:

IARC: Not Listed

NTP: Not Listed

OSHA: Not Listed

OTHER: WARNING: This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

XII. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE: Thiophanate methyl degrades primarily to MBC whether on foliage, in soil or in water, in a matter of days. Both photolysis and hydrolysis are important routes of degradation. MBC is microbially degraded, but stable to aqueous photodegradation, stable to hydrolysis at pH values ranging from 5 to 7, and stable to soil photolysis. Metabolism under aerobic and anaerobic conditions in both soil and water proceeds at a slow rate. Under application conditions, average half-lives are about 20 to 50 days, but may be as short as a few days with repeated use.

ECOTOXICOLOGICAL INFORMATION: Data on Thiophanate Methyl Technical:

96-hour LC ₅₀ Bluegill:	>41 ppm	Bobwhite Quail 8-day Dietary LC ₅₀ :	>10,000 ppm
96-hour LC ₅₀ Rainbow Trout:	8.3 ppm	Mallard Duck Oral LD ₅₀ :	4,640 mg/kg
48-hour EC ₅₀ Daphnia:	5.4 ppm	48-hour Honey Bee Contact LD ₅₀ :	>100 µg/bee
96-hour LC ₅₀ Mysid:	1.1 ppm		

XIII. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS:

Product: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

XIV. TRANSPORTATION INFORMATION:

Transportation:

< 2 gallons per completed package: Not DOT Regulated

\geq 2 gallons but < 119 gallons per completed package:

UN 3082, Environmentally hazardous substances, liquid, n.o.s., 9, III, (thiophanate methyl), RQ

\geq 119 gallons per completed package:

UN 3082, Environmentally hazardous substances, liquid, n.o.s., 9, III, (thiophanate methyl), Marine Pollutant, RQ

XV. REGULATORY INFORMATION – UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):**SEC 311/312:**

Y Immediate (Acute Health)

N Delayed (Chronic Health)

N Fire

N Sudden Release of Pressure

N Reactivity

SEC 302 (Extremely Hazardous Substance):**SEC 304 (Emergency Release Notification):**

SEC 313 (Toxic Chemicals): Thiophanate methyl (CAS 23564-05-8) 46.2% by weight in product

CERCLA RQ: Thiophanate methyl (CAS 23564-05-8) 10 pounds

RCRA WASTE CODE: Thiophanate methyl (CAS 23564-05-8) U409

EPA Registration No.: 228-626

NOTE: NA=Not Applicable; ND=Not Determined; NE=Not Established

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