

MATERIAL SAFETY DATA SHEET

TALSTAR® LAWN & TREE FLOWABLE INSECTICIDE/MITICIDE



MSDS Ref. No: 82657-04-3-37

Version: Global

Date Approved: 08/13/1998

Revision No: 2

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the EC directive, 91/155/EEC and other regulatory requirements. The information contained herein is for the concentrate as packaged, unless otherwise noted.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TALSTAR® LAWN & TREE FLOWABLE INSECTICIDE/MITICIDE

PRODUCT CODE: 1660

ACTIVE INGREDIENT: Bifenthrin

CHEMICAL FAMILY: Pyrethroid Pesticide

MOLECULAR FORMULA: C₂₃H₂₂ClF₃O₂ (bifenthrin)

SYNONYMS: FMC 54800; (2-methyl[1,1'-biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate; IUPAC: 2-methylbiphenyl-3-ylmethyl (Z)-(1RS)-cis-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate

MANUFACTURER

FMC CORPORATION

Agricultural Products Group

1735 Market Street

Philadelphia, PA 19103 USA

General Information: 800-528-8873

Emergency Telephone Numbers:

Emergency Phone (FMC) 800-331-3148
(U.S.A. & Canada)

Emergency Phone (FMC) 716-735-3765
(Reverse Charges)

CHEMTREC (800) 424-9300 (U.S.A. & Canada)

(202) 483-7616 (All other countries)

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt.%</u>	<u>PEL/TLV</u>	<u>EC No.</u>	<u>EC Class</u>
Bifenthrin	82657-04-3	7.9	None	None	None
Propylene Glycol	57-55-6	<6.2	10.0 mg/m ³ WEEL	None	None

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS:

- Beige liquid with a bland odor.
- Slightly combustible. May support combustion at elevated temperatures.
- Thermal decomposition and burning may form toxic by-products.
- For large exposures or fire, wear personal protective equipment.
- Highly toxic to fish and aquatic organisms. Keep out of drains and water courses.
- Moderately toxic if inhaled.

POTENTIAL HEALTH EFFECTS: Effects from overexposure may result from either swallowing, inhaling or coming into contact with the skin or eyes. Symptoms of overexposure include bleeding from the nose, tremors and convulsions. Contact with bifenthrin may occasionally produce skin sensations such as rashes, numbing, burning or tingling. These skin sensations are reversible and usually subside within 12 hours.

MEDICAL CONDITIONS AGGRAVATED: None presently known.

4. FIRST AID MEASURES

EYES: Flush with plenty of water. Get medical attention if irritation occurs and persists.

SKIN: Wash with plenty of soap and water.

INGESTION: Drink 1 or 2 glasses of water and induce vomiting by touching the back of the throat with a finger or by giving syrup of ipecac. Never induce vomiting or give anything by mouth to an unconscious person. Contact a medical doctor.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

NOTES TO MEDICAL DOCTOR: This product has moderate inhalation, and low oral and dermal toxicity. It is practically non-irritating to the eyes and non-irritating to the skin. Reversible skin sensations (paresthesia) may occur and ordinary skin salves have been

found useful in reducing discomfort. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

FLASH POINT AND METHOD: >100°C (>212°F) (TCC)

EXTINGUISHING MEDIA: Foam, CO₂ or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

EXPLOSION HAZARDS: Slightly combustible. This material may support combustion at elevated temperatures.

FIRE FIGHTING PROCEDURES: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapors generated.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, chlorine, fluorine, hydrogen chloride and hydrogen fluoride.

6. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8, "Exposure Controls/Personal Protection". Keep unprotected persons and animals out of the area.

Keep material out of lakes, streams, ponds and sewer drains. Dike to confine spill and absorb with a non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label contents for disposal.

To clean and neutralize spill area, tools and equipment, wash with a suitable solution of caustic or soda ash, and an appropriate alcohol (i.e., methanol, ethanol or isopropanol). Follow this by washing with a strong soap and water solution. Absorb, as above, any excessive liquid and add to the drums of waste already collected. Repeat if necessary. Dispose of drummed waste according to the method outlined in Section 13, "Disposal Considerations".

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Store in a cool, dry, well-ventilated place. Do not use or store near heat, open flame or hot surfaces. Store in original containers only. Keep out of reach of children and animals. Do not contaminate other pesticides, fertilizers, water, food

or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Use local exhaust at all process locations where vapor or mist may be emitted. Ventilate all transport vehicles prior to unloading.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: For splash, mist or spray exposure, wear chemical protective goggles or a face shield.

RESPIRATORY: For splash, mist or spray exposure wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization). Respirator use and selection must be based on airborne concentrations.

PROTECTIVE CLOTHING: Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items - such as shoes, belts and watchbands - that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

WORK HYGIENIC PRACTICES: Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking or using tobacco. Shower at the end of the workday.

GLOVES:

Wear chemical protective gloves made of materials such as rubber, neoprene, or PVC. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

COMMENTS: Personal protective recommendations for mixing or applying this product are prescribed on the product label. Information stated above provides useful, additional guidance for individuals whose use or handling of this product is not guided by the product label.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Bland

APPEARANCE: Beige liquid

pH: 6.7

SOLUBILITY IN WATER: Disperses

SPECIFIC GRAVITY: 1.024 @ 20°C (water =1)

MOLECULAR WEIGHT: 422.88 (bifenthrin)

WEIGHT PER VOLUME: 8.53 lb/gal. (1024 g/L)

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Excessive heat and fire.

STABILITY: Stable

POLYMERIZATION: Will not occur

11. TOXICOLOGICAL INFORMATION

DERMAL LD₅₀ : >2000 mg/kg (rabbit)

ORAL LD₅₀ : 632 mg/kg (rat)

INHALATION LC₅₀ : 11.58 mg/L/1 hr (rat)

ACUTE EFFECTS FROM OVEREXPOSURE: This product has moderate inhalation, and low oral and dermal toxicity. It is practically non-irritating to the eyes and non-irritating to the skin. Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge. Bifenthrin does not cause acute delayed neurotoxicity. Experience to date indicates that contact with bifenthrin may occasionally produce skin sensations such as rashes, numbing, burning or tingling. These sensations are reversible and usually subside within 12 hours.

CHRONIC EFFECTS FROM OVEREXPOSURE: No data available for the formulation. In studies with laboratory animals, bifenthrin did not cause reproductive toxicity or teratogenicity. Tremors were associated with repeated exposure of laboratory animals to bifenthrin. In lifetime feeding studies conducted with rodents, a slight increase in the incidence of urinary bladder tumors at the highest dose in male mice was considered to be an equivocal response, not evidence of a clear compound-related effect. The overall absence of genotoxicity has been demonstrated in mutagenicity tests with bifenthrin.

CARCINOGENICITY:

IARC: Not listed

NTP: Not listed

OSHA: Not listed

OTHER: (ACGIH) Not listed

12. ECOLOGICAL INFORMATION

Unless otherwise indicated, the data presented below are for the active ingredient.

ENVIRONMENTAL DATA: In soil, bifenthrin is stable over a wide pH range and degrades at a slow rate which is governed by soil characteristics. Bifenthrin will also persist in aquatic sediments. Bifenthrin has a high Log Pow (>6.0), a high affinity for organic matter, and is not mobile in soil. Therefore, there is little potential for movement into ground water. There is the potential for bifenthrin to bioconcentrate (BCF = 11, 750).

ECOTOXICOLOGICAL INFORMATION: Bifenthrin is highly toxic to fish and aquatic arthropods and LC50 values range from 0.0038 to 17.8 µg/L. In general, the aquatic arthropods are the most sensitive species. Care should be taken to avoid contamination of the aquatic environment. Bifenthrin had no effect on mollusks at its limit of water solubility. Bifenthrin is only slightly toxic to both water fowl and upland game birds (LD50 values range from 1,800 mg/kg to >2,150 mg/kg).

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location, and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

EMPTY CONTAINER: Non-returnable containers which held this material should be cleaned, prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple-rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

14. TRANSPORT INFORMATION

U.S. DOT (DEPARTMENT OF TRANSPORTATION)**REPORTABLE QUANTITY (RQ):** None**U.S. SURFACE FREIGHT CLASS:** Insecticides, NOI, other than Poison. NMFC Item 102120.**MARINE POLLUTANT #1:** bifenthrin (Severe Marine Pollutant)**OTHER SHIPPING INFORMATION:**

When shipped by highway, railroad or air, in packages <119 gallons/450 L in volume: Not regulated.

Non-bulk packages by water and bulk packages by highway, railroad or water, the material is Class 9: Environmentally hazardous substances, liquid, n.o.s. (bifenthrin 7.9%), 9, UN3082, III. NAERG Guide 171.

15. REGULATORY INFORMATION**UNITED STATES****SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)****311 HAZARD CATEGORIES (40 CFR 370):** Immediate, Delayed**SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):** The threshold planning quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs. This product contains the following ingredients with a TPQ of less than 10,000 lbs.: None**SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):** This product contains the following ingredients subject to Section 313 reporting requirements: (bifenthrin) (glycol ethers)**SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):** Not listed**CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT):**

<u>Chemical Name</u>	<u>Wt.%</u>	<u>RQ</u>
Propylene Glycol	<6.2	1 lb.

COMMENTS: Australian Hazard Code : 3XE

U.S. EPA Signal Word : CAUTION

16. OTHER INFORMATION

Talstar and FMC Logo - FMC Trademarks

Section(s) Revised : New Format