

# MATERIAL SAFETY DATA SHEET

## TalstarOne™ Multi-Insecticide



MSDS Ref. No: 82657-04-3-116

Version: Global

Date Approved: 01/05/2004

Revision No: 4

---

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the EC directive, 2001/58/EC and other regulatory requirements. The information contained herein is for the concentrate as packaged, unless otherwise noted.

---

## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** TalstarOne™ Multi-Insecticide

**PRODUCT CODE:** 6217

**ACTIVE INGREDIENT:** Bifenthrin

**CHEMICAL FAMILY:** Pyrethroid Pesticide

**MOLECULAR FORMULA:** C<sub>23</sub>H<sub>22</sub>ClF<sub>3</sub>O<sub>2</sub> (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:** 800-321-1362

### Emergency Telephone Numbers:

**Emergency Phone (FMC)** 800-331-3148 (U.S.A. & Canada)  
**Emergency Phone (FMC)** 716-735-3765 (Reverse Charges)  
**CHEMTREC (U.S.):** (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          | R25; R50/53     |
| Propylene Glycol     | 57-55-6     | <6.2        | 10.0<br>mg/m <sup>3</sup><br>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.

**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 low oral, dermal and inhalation 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, CO<sub>2</sub> or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

**FIRE / 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 excess 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 air-purifying respirator with an organic vapor cartridge (OV) or canister with any R, P or HE prefilter (approved by 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

**EYE EFFECTS:** Practically non-irritating (rabbit)

**SKIN EFFECTS:** Non-irritating (rabbit)

**DERMAL LD<sub>50</sub>:** >2000 mg/kg (rabbit)

**ORAL LD<sub>50</sub>:** 632 mg/kg (rat)

**INHALATION LC<sub>50</sub>:** 11.58 mg/L/1 hr (rat)

**ACUTE EFFECTS FROM OVEREXPOSURE:** This product has low oral, dermal and inhalation 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. In humans, ingestion of large amounts of propylene glycol has resulted in symptoms of reversible central nervous system depression including stupor, rapid breathing and heartbeat, profuse sweating and seizures.

**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. Repeated overexposure to propylene glycol can produce central nervous system depression, hemolysis and minimal kidney damage.

#### **CARCINOGENICITY:**

IARC: Not listed

NTP: Not listed

OSHA: Not listed

OTHER: Not Listed (ACGIH)

---

## **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. DEPARTMENT OF TRANSPORTATION (DOT)

#### **OTHER SHIPPING INFORMATION:**

U.S. DEPARTMENT OF TRANSPORTATION (DOT):

Non-bulk Packages:

Notes: This product is not subject to regulations as a hazardous material when in non-bulk packages.

Bulk Packages:

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.

Technical Name(s): bifenthrin

Class or Division: 9

ID Number: UN 3082

Packing Group: III

Marine Pollutant(s): bifenthrin

Label(s): 9

Placard(s): 9

Mark(s): 3082

ERG No.: 171

#### INTERNATIONAL MARITIME DANGEROUS GOODS CODE:

Substance or Article: Environmentally hazardous substance, liquid, n.o.s.

Technical Name(s): bifenthrin 7.9%

Class or Division: 9

ID Number: UN 3082

Packing Group: III

Marine Pollutant(s): bifenthrin 7.9%

Label(s): 9

Placard(s): 9

Mark(s): Marine Pollutant and Environmentally hazardous substance, liquid, n.o.s. (bifenthrin 7.9%), UN 3082

EmS No.: F-A, S-F

Flash Point: >100°C

ADR - EUROPEAN AGREEMENT CONCERNING THE  
INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY  
ROAD:

UN Number: Un 3082

Name and Description: Environmentally hazardous substance, liquid,  
n.o.s.

Technical Name(s): bifenthrin

Class or Division: 9

Classification Code: M6

Packing Group: III

Hazard Identification Number: 90

Marine Pollutant: bifenthrin

Label(s): 9

Placard(s): 9

Marks: 9, 3082

Road or Rail: ADR

Notes: Marks in compliance with IMDG Code are accepted.

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) /  
INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):

Notes: This product is not subject to regulations as a dangerous good when  
shipped by air in non-bulk packages.

HARMONIZED SYSTEM:

Import to the U.S.A.: 3808.10.2500

Export from the U.S.A.: 3808.10.0000

---

## **15. REGULATORY INFORMATION**

### **UNITED STATES**

### **SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

**SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES  
(40 CFR 355):** Not listed

**SECTION 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)

**CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE  
COMPENSATION AND LIABILITY ACT)**

**CERCLA REGULATORY (40 CFR 302.4):** Not listed  
**COMMENTS:**

Australian Hazard Code : 3XE

U.S. EPA Signal Word : CAUTION

---

## **16. OTHER INFORMATION**

**REVISION SUMMARY**

This MSDS replaces Revision #3, dated December 15, 2003. Changes in information are as follows:

Section 16 (Other Information)

Bifenthrin technical:

EU Symbols:

T (Toxic); N (Dangerous for the environment)

EU Risk Phrases:

R25 (Toxic by Inhalation)

R50 (Very toxic to aquatic organisms)

R53 (May cause long term adverse effects in the aquatic environment)

EU Safety Phrases:

S1/2 (Keep locked up and out of the reach of children)

S29 (Do not empty into drains)

S45 (In case of accident or if you feel unwell, seek medical advise immediately - show the label where possible)

TalstarOne and FMC Logo - FMC Trademarks

© 2004 FMC Corporation. All Rights Reserved

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be applicable where such product is used in combination with any other materials or in any process. Use of this product is regulated by the U.S. Environmental Protection Agency (EPA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Further, since the conditions and methods of use are beyond the control of FMC Corporation, FMC Corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.