

MATERIAL SAFETY DATA SHEET

CAPTURE® LFR SOIL INSECTICIDE



MSDS Ref. No.: 82657-04-3-136

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Revision No.: 5

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200. The information contained herein is for the concentrate as packaged, unless otherwise noted.

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: CAPTURE® LFR SOIL INSECTICIDE
PRODUCT CODE: 6303
ACTIVE INGREDIENT(S): Bifenthrin
CHEMICAL FAMILY: Pyrethroid Pesticide
MOLECULAR FORMULA: $C_{23}H_{22}ClF_3O_2$ (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
ALTERNATE PRODUCT NAME(S): Capture LFR Insecticide

MANUFACTURER

FMC CORPORATION
Agricultural Products Group
1735 Market Street
Philadelphia, PA 19103
(800) 321-1362 (General Information)
msdsinfo@fmc.com (Email - General Information)

EMERGENCY TELEPHONE NUMBERS

(800) 331-3148 (Medical - U.S.A. & Canada)
(651) 632-6793 (Medical - Collect - All Other Countries)

For leak, fire, spill, or accident emergencies, call:
(800) 424-9300 (CHEMTREC - U.S.A. & Canada)
(703) 527-3887 (CHEMTREC - Collect - All Other Countries)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

- White to off-white viscous liquid, with a latex paint-like odor
- Slightly combustible. May support combustion at elevated temperatures. Finely dispersed particles can form explosive mixtures in air.
- For large exposures or fire, wear personal protective equipment.
- Highly toxic to fish and aquatic organisms. Keep out of drains and water courses.
- Thermal decomposition and burning may form toxic by-products.

- Moderate oral toxicity.
- Prolonged, repeated exposure to respirable crystalline silica can cause silicosis or possibly cancer. See section 11 for additional details.

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

MEDICAL CONDITIONS AGGRAVATED: None presently known.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Bifenthrin	82657-04-3	17.1	None	T, Xn, Xi, N; R25-20-43-50/53
Surfactant Blend		15	None	Not classified
Propylene Glycol	57-55-6	<10	200-338-0	Not classified
Silica, quartz	14808-60-7	<1.1	238-878-4	Not classified in Annex I

4. FIRST AID MEASURES

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

SKIN: Wash with plenty of water. Get medical attention if irritation occurs and persists.

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 a poison control center or doctor. Do not give anything to an unconscious person.

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 oral, and low dermal and inhalation toxicity. It is mildly irritating to the eyes, and slightly irritating to the skin. It is non-sensitizing 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

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

FIRE / EXPLOSION HAZARDS: Slightly combustible. May support combustion at elevated temperatures. Finely dispersed particles can form explosive mixtures in air.

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.

6. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: 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 contaminated area, scrub area with a solution of detergent (e.g. commercial product such as SuperSoap™, Tide®, Spic and Span®, or other high pH detergent) and water. Let solution sit for 5 minutes. Use a stiff brush to scrub affected area. Repeat if necessary to remove visible staining. Additional decontamination can be made by applying bleach (Clorox® or equivalent) to affected area.

Absorb wash-liquid as noted above, remove visibly contaminated soil and place into recovery / disposal container (plastic, open-top steel drum or equivalent). Place all clean-up material in a container, seal and dispose of in accordance with the method outlined in Section 13 "Disposal Considerations" below.

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.

For further information on spill clean-up, waste disposal, or return of salvaged product, call the FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

7. HANDLING AND STORAGE

HANDLING AND STORAGE: 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

EXPOSURE LIMITS

Chemical Name	ACGIH	OSHA	Supplier
Silica, quartz	0.025 mg/m ³ (8-hour TWA) (respirable fraction)	(10/(% SiO ₂ + 2) mg/m ³ (8-hour TWA, respirable dust)) (30/(% SiO ₂ + 2) mg/m ³ (8-hour TWA, total dust))	

ENGINEERING CONTROLS: Use local exhaust at all process locations where vapor or mist may be emitted.

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 exposures 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).

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.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR:	Latex paint-like
APPEARANCE:	White to off-white viscous liquid
DENSITY / WEIGHT PER VOLUME:	1.05 g/mL (8.75 lb/gal) at 20°C (68°F)

MOLECULAR WEIGHT: 422.9 (bifenthrin)
pH: 6.1 at 23°C (74°F) (1% dispersion)

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Excessive heat and fire.
STABILITY: Stable
POLYMERIZATION: Will not occur
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, hydrogen chloride, hydrogen fluoride, and sulfur dioxide.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: Mildly irritating

SKIN EFFECTS: Slightly irritating

DERMAL LD₅₀: > 5,000 mg/kg (rabbit)

ORAL LD₅₀: 175 mg/kg (rat)

INHALATION LC₅₀: > 2.28 mg/l (4 h) (rat)

SENSITIZATION: (Skin) Non-sensitizing (guinea pig)

ACUTE EFFECTS FROM OVEREXPOSURE: This product has moderate oral, and low dermal and inhalation toxicity. It is mildly irritating to the eyes, and slightly irritating to the skin. It is non-sensitizing to the skin. Signs of toxicity in laboratory animals included nasal discharge, diarrhea, convulsions, tremors and oral 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 laboratory animals, 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 crystalline silica for extended periods has caused acute silicosis. IARC has classified crystalline silica, inhaled in the form of quartz or cristobalite from occupational sources, as carcinogenic to humans (Group 1). NTP has classified respirable crystalline silica (quartz, cristobalite and tridymite) as "known to be a human carcinogen". The American Conference

of Governmental Industrial Hygienists (ACGIH) has concluded that silica quartz is a suspected human carcinogen (A2 - limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals with relevance to humans). Repeated overexposure to propylene glycol can produce central nervous system depression, hemolysis and minimal kidney damage.

CARCINOGENICITY:

Chemical Name	IARC	NTP	OSHA	Other
Silica, quartz	1	Known Carcinogen	Not listed	(ACGIH) A2

12. ECOLOGICAL INFORMATION

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

ENVIRONMENTAL DATA: In soil, bifenthrin is stable over a wide pH range and degrades at a slow rate that is governed by soil characteristics. Bifenthrin will also persist in aquatic sediments. Bifenthrin has a high Log Pow (6.6), 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 <2,000).

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 waterfowl 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, and may be disposed of in a sanitary landfill or by incineration. If the outer container contacts formulated product in any way, it must be triple-rinsed with clean water. Add rinse to the spray tank and dispose of the outer package as described above.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

PACKAGING TYPE:	Non-Bulk
PROPER SHIPPING NAME:	Pyrethroid pesticide, liquid, toxic
TECHNICAL NAME(S):	Bifenthrin
PRIMARY HAZARD CLASS / DIVISION:	6.1
UN/NA NUMBER:	UN 3352
PACKING GROUP:	III
PACKAGING TYPE:	Bulk
PROPER SHIPPING NAME:	Pyrethroid pesticide, liquid, toxic
TECHNICAL NAME(S):	Bifenthrin
PRIMARY HAZARD CLASS / DIVISION:	6.1
UN/NA NUMBER:	UN 3352
PACKING GROUP:	III
MARINE POLLUTANT:	Bifenthrin

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

PACKAGING TYPE:	Non-Bulk
PROPER SHIPPING NAME:	Pyrethroid pesticide, liquid, toxic
TECHNICAL NAME(S):	Bifenthrin
PRIMARY HAZARD CLASS / DIVISION:	6.1
UN/NA NUMBER:	UN 3352
PACKING GROUP:	III
MARINE POLLUTANT:	Bifenthrin
ADDITIONAL INFORMATION:	EmS Number: F-A, S-A

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

PACKAGING TYPE:	Non-Bulk
PROPER SHIPPING NAME:	Pyrethroid pesticide, liquid, toxic
TECHNICAL NAME(S):	Bifenthrin
PRIMARY HAZARD CLASS / DIVISION:	6.1
CLASSIFICATION CODE:	T6
UN/NA NUMBER:	UN3352

PACKING GROUP: III
HAZARD IDENTIFICATION NUMBER: 60
ADDITIONAL INFORMATION: Environmentally Hazardous Substance:
Bifenthrin

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

PACKAGING TYPE: Non-Bulk
PROPER SHIPPING NAME: Pyrethroid pesticide, liquid, toxic
TECHNICAL NAME(S): Bifenthrin
PRIMARY HAZARD CLASS / DIVISION: 6.1
UN/NA NUMBER: UN3352
PACKING GROUP: III
ADDITIONAL INFORMATION: Environmentally Hazardous Substance:
Bifenthrin

OTHER INFORMATION:

HARMONIZED SYSTEM
Import to the U.S.A.: 3808.91.2500
Export from the U.S.A.: 3808.91.0000

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A):
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; however, 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 DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):**

Not listed

FEDERAL INSECTICIDE FUNGICIDE RODENTICIDE ACT

U.S. EPA Signal Word: WARNING

HAZARD AND RISK PHRASE DESCRIPTIONS:

EC Symbols:	T	(Toxic)
	Xn	(Harmful)
	Xi	(Irritant)
	N	(Dangerous for the environment)
EC Risk Phrases:	R20	(Harmful by inhalation.)
	R25	(Toxic if swallowed.)
	R43	(May cause sensitization by skin contact.)
	R50/53	(Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.)

16. OTHER INFORMATION

REVISION SUMMARY:

This MSDS replaces Revision #4, dated January 2, 2007.

Changes in information are as follows:

- Section 1 (Product and Company Identification)
- Section 2 (Hazards Identification)
- Section 3 (Composition / Information on Ingredients)
- Section 4 (First Aid Measures)
- Section 8 (Exposure Controls / Personal Protection)
- Section 11 (Toxicological Information)
- Section 14 (Transport Information)
- Section 15 (Regulatory Information)
- Section 16 (Other Information)

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SuperSoap - Trademark of Weba Technologies, Inc.; Tide - Trademark of Proctor and Gamble; Spic and Span: Trademark of The Spic and Span Company; Clorox - Trademark of The Clorox Company

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