

MATERIAL SAFETY DATA SHEET

SURRENDER G BIFENTHRIN 0.115 G

Date Approved: 04/13/2006

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. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: SURRENDER G
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

EPA Registration No: 53883-194
EPA Est. No: 44616-MO-1

MANUFACTURER

CONTROL SOLUTIONS, Inc.
 5903 Genoa-Red Bluff
 Pasadena, Texas 77507

Emergency Telephone Numbers:

Emergency Phone (281) 892-2500
CHEMTREC (800) 424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

| <u>Chemical Name</u> | <u>CAS #</u> | <u>Wt. %</u> | <u>PEL/TLV</u> |
|----------------------|--------------|--------------|----------------|
| Bifenthrin | 82657-04-3 | 0.115 | None |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: - Tan, solid granules with a slightly musty 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 watercourses.

POTENTIAL HEALTH EFFECTS: Effects from overexposure result from absorption through the skin or may result from inhaling the dust. Overexposure to this product may cause diarrhea. 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. Never give anything by mouth to an unconscious person. If any discomfort persists, obtain medical attention.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

NOTES TO MEDICAL DOCTOR: This product has low oral and dermal toxicity, and is non-irritating to the eyes and skin. This product contains a granular material (sand) that may cause mechanical irritation to the eyes. 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. 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, hydrogen chloride and hydrogen flouride.

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. Large spills should be covered to prevent dispersal. For dry material, use a wet sweeping compound or water to prevent the formation of dust. If water is used, prevent runoff or dispersion of excess liquid by diking and absorbing with a non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump all waste material, including absorbent, 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 dust may be emitted. Ventilate all transport vehicles prior to unloading.

PERSONAL PROTECTIVE EQUIPMENT

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

RESPIRATORY: For dust 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 or neoprene. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Slightly musty

APPEARANCE: Grayish - tan solid granule

BULK DENSITY: 45 – 80 lb/cu ft.

MOLECULAR WEIGHT: 422.88 (bifenthrin)

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: >5000 mg/kg (rat)

ACUTE EFFECTS FROM OVEREXPOSURE: This product has low oral and dermal toxicity, and is non-irritating to the eyes and skin. Excessive exposure to dust may irritate the respiratory system, skin and eyes. This product caused diarrhea in laboratory animals. 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: 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: Completely empty package into application equipment then dispose of empty package in accordance with all Federal, State and local regulations.

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 - see 'Other Shipping Information' below)

OTHER SHIPPING INFORMATION:

Bifenthrin is a severe marine pollutant, but is not regulated in concentrations less than 1%. This material is not regulated for transport via any mode.

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): There are no ingredients in this product which are subject to Section 313 reporting requirements.

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

CERCLA RQ: Not listed

STATE REGULATIONS

PROPOSITION 65 STATEMENT: There are no ingredients in this product which are subject to the reporting requirements of California Proposition 65.

COMMENTS: U.S. EPA Signal Word : CAUTION

16. OTHER INFORMATION

All information contained in this Material Safety Data Sheet is furnished free of charge and is intended for your evaluation. In our opinion the information is, as of the date of this Material Safety Data Sheet, reliable, however, it is your responsibility to determine the suitability of the information for your use. You are advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional or variable conditions or circumstances exist or because of applicable or government regulations. Therefore, you should use this information only as a supplement to other information gathered by you, and you must make independent determinations of the suitability and completeness of the information from all sources to assure both proper use of the material described herein and the safety and health of employees. Accordingly, no guarantee expressed or implied is made by Control Solutions, Inc. as to the results to be obtained based upon your use of the information, nor does Control Solutions, Inc. assume any liability arising out of your use of the information.

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