

MATERIAL SAFETY DATA SHEET**TUNDRA™ INSECTICIDE**

Date Issued: 09/18/07

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company: Winfield Solutions, LLC
P.O. Box 64589
St. Paul, MN 55164-0589

Product Name: TUNDRA™ INSECTICIDE

EPA Reg. No. 1381-196

Product use: Insecticide/Miticide

FOR MEDICAL EMERGENCIES, call Toll Free 1-877-424-7452.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

<u>CHEMICAL NAME</u>	<u>CAS#</u>	<u>WT. %</u>	<u>PEL/TLV</u>
Bifent hrin: (2-methy 1[1,1'-biphenyl]3-yl) methyl 3-(2-chloro-3,3,3-trifluoro-1-propeny)- 2,2-dimethylcyclopropanecarboxylate	82657-04-3	25	None
Surfactant	Proprietary blend	10	None
Aromatic Hydrocarbons	64742-95-6	40	None
Mixture of methyl palmitate, methyl stearate, methyl oleate, and methyl linoleate	67762-38-3	25	None

SECTION 3 HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****CAUTION: IMMEDIATE CONCERNS:**

- Clear yellow liquid with an aromatic hydrocarbon odor.
- Moderately combustible. May support combustion if heated above the product's flash point.
- Thermal decomposition 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 ingested.

POTENTIAL HEALTH EFFECTS: Effects from overexposure result from either swallowing or coming into contact with the skin. Symptoms of overexposure include tremors, convulsions, incoordination, decreased locomotion and nasal discharge. Contact with this product may occasionally produce skin sensations such as rashes, numbing, burning and tingling. These sensations are reversible and usually subside within 12 hours.

MEDICAL CONDITIONS AGGRAVATED: None presently known.

SECTION 4 FIRST AID MEASURES**IF SWALLOWED:**

Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF IN 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 for treatment advice.

IF INHALED:

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

IF ON SKIN OR CLOTHING:

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.

NOTE TO PHYSICIAN: This product is a pyrethroid. If large amounts have been ingested, the stomach and

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intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

SECTION 5 FIRE FIGHTING MEASURES

FLASH POINT (method):	54° C
EXTINGUISHING MEDIA:	Foam, CO ₂ or dry chemical. Soft stream water fog only if necessary. Contain all runoff.
EXPLOSION HAZARDS:	Moderately 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:	Heat and fire may result in thermal decomposition and the release of carbon monoxide, carbon dioxide, hydrogen chloride and hydrogen fluoride.

SECTION 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 area.

Keep material out of lakes, streams, ponds and sewer drains. Dike to confine spill and absorb with an 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".

SECTION 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 freeze. Do not store below 4° C (40° F). If crystals are observed, warm material to above 15° C (60° F) by room heating only. Do not use external source of heat for warming container. Shake container periodically to redissolve crystals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

SECTION 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: For individuals whose use or handling of this product is not guided by the product label. PPE for mixing and applying this product are prescribed on the product label.

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 (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 covered barrier suit, such as a PVC suit. Leather items such as shoes, belts and watch bands that become contaminated should be

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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 HYGIENE 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 work day.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Aromatic Hydrocarbon
SOLUBILITY IN WATER: Emulsifies

APPEARANCE: Amber to yellow liquid
WEIGHT PER VOLUME: 2.0 lb. a.i. /gal

SECTION 10 STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Excessive heat and fire.
STABILITY: Stable.
POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

DERMAL LD₅₀: >2000 mg/kg (rabbit)

ORAL LD₅₀: 262 mg/kg (rat)

INHALATION LC₅₀: 1.86 mg/L/4 hr (rat)

SENSITIZATION: This product produces skin sensitization (allergic reaction) in laboratory animals and may produce similar effects in humans.

ACUTE EFFECTS FROM OVEREXPOSURE: This product has moderate oral and low inhalation, and dermal toxicity. It is minimally irritating to the eyes and non-irritating to the skin. Signs of toxicity in laboratory animals included tremors, convulsions, ataxia, decreased locomotion and nasal discharge. Bifenthrin Technical does not cause acute delayed neurotoxicity. Contact with Bifenthrin products may occasionally produce skin sensations, such as rashes, numbing, burning or tingling, which are reversible and usually subside with 12 hours. Inhalation of aromatic hydrocarbon vapors may cause dizziness, disturbances in vision, drowsiness, respiratory irritation, and eye, skin and mucous membrane irritation. Vomiting after ingestion of this product may cause aspiration of aromatic hydrocarbons into the lungs which may result in fatal pulmonary edema.

CHRONIC EFFECTS FROM OVEREXPOSURE: No data are available for this formulated product. In studies with laboratory animals, Bifenthrin Technical did not cause reproductive toxicity or teratogenicity. Tremors were associated with repeated exposure of laboratory animals to Bifenthrin Technical. 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. Chronic exposure to aromatic hydrocarbons may cause headaches, dizziness, loss of sensations or feelings (such as numbness), and liver and kidney damage.

CARCINOGENICITY:

IARC: Not listed

NTP: Not listed

OSHA: Not listed

SECTION 12 ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Bifenthrin Technical has moderate stability in the soil 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)

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ECOTOXICOLOGICAL INFORMATION: Bifenthrin Technical is highly toxic to fish and aquatic arthropods and LC50 values range from 0.0038 to 17.8 µ/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).

SECTION 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 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 rinsate being incinerated. Vapors that form may create an explosion hazard.

SECTION 14 TRANSPORT INFORMATION**U.S. Department of Transportation (DOT)**

PROPER SHIPPING NAME:	Pyrethroid pesticide, liquid, toxic, flammable
TECHNICAL NAME:	Bifenthrin
PRIMARY HAZARD CLASS/DIVISION:	6.1
UN/NA NUMBER:	UN3351
PACKING GROUP:	III
REPORTABLE QUANTITY:	None
U.S. SURFACE FREIGHT CLASS:	Insecticides, NOI, Poison other than Class A Poison, NMFC Item 102100
MARINE POLLUTANT #1:	Bifenthrin (Severe Marine Pollutant)
NAERG:	131

SECTION 15 REGULATORY INFORMATION**SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORISATION ACT)****SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):**

Not listed

SECTION 311 HAZARD CATEGORIES (40 CFR 370):

Immediate, Delayed, Fire.

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) (1,24, -trimethylbenzene) (Xylene, mixed isomers) (ethylbenzene)

Chemical Name	Wt. %	RQ
Xylene	<7.1%	100 lbs.
Ethylbenzene	<1.1%	1000 lbs.

SECTION 16 OTHER INFORMATION

NFPA RATING	HEALTH	FLAMMABILITY	REACTIVITY	OTHERS
	2	2	0	None

Least – 0, Slight – 1, Moderate – 2, High – 3, Extreme – 4. These values are obtained using professional

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judgment and were not available in the guidelines or published evaluations prepared by the National Fire Protection Association.

THIS INFORMATION IN THIS MSDS IS BASED ON DATA AVAILABLE AS OF THE REVISION DATE GIVEN HEREIN, AND BELIEVED TO BE CORRECT. CONTACT WINFIELD SOLUTIONS, LLC TO CONFIRM IF YOU HAVE THE MOST CURRENT MSDS. JUDGMENTS AS TO THE SUITABILITY OF THE INFORMATION HEREIN FOR THE INDIVIDUAL'S OWN USE OR PURPOSES IS NECESSARILY THE INDIVIDUAL'S OWN RESPONSIBILITY. ALTHOUGH REASONABLE CARE HAS BEEN TAKEN IN THE PREPARATION OF SUCH INFORMATION, WINFIELD SOLUTIONS, LLC EXTENDS NO WARRANTIES, MAKES NO REPRESENTATIONS, AND ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OR SUITABILITY OF SUCH INFORMATION FOR APPLICATION TO THE INDIVIDUAL'S PURPOSES OR THE CONSEQUENCES OF ITS USE.

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

REVISION SUMMARY: New