

**Material Safety Data Sheet**  
**GardenTech Over'n Out Advanced Fire Ant Killer**  
**EPA Registration No. 279-3344-71004**

**Date:** July 2013



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This MSDS has been prepared to meet U.S. OSHA Hazard Communication Standard 29 CFR 1910.1200  
And Canadian Workplace Hazardous Materials Information System (WHMIS) requirements.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	GardenTech Over'n Out Advanced Fire Ant Killer
<b>Product codes</b>	100515674, 100515675, 100515678, 100515681, 100515682
<b>Active Ingredient(s)</b>	Bifenthrin, Zeta-cypermethrin
<b>Synonyms</b>	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; FMC 233570; (+/-)- $\alpha$ -cyano(3-phenoxyphenyl)methyl (+/-) cis, trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate; IUPAC: (RS)- $\alpha$ -cyano-3-phenoxybenzyl (1RS)-cis-trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate;
<b>Chemical Family</b>	Pyrethroid Pesticide
<b>Recommended use:</b>	Insecticide formulation
<b><u>Manufacturer</u></b>	<b><u>Emergency telephone number</u></b>
TechPac, LLC. 1000 Parkwood Circle Suite 700 Atlanta, GA 30339 General Information: Phone: 866-945-5033	Medical Emergencies: (Human or Animal) 800-420-9347 For leak, fire, spill or accident emergencies, call: 800-424-9300

## 2. HAZARDS IDENTIFICATION

<b><u>Appearance</u></b>	solid granules
<b><u>Physical state</u></b>	solid
<b><u>Odor</u></b>	No information available.
<b>Flammable properties</b>	Powdered material may form explosive dust-air mixtures
<b><u>Potential health effects</u></b>	
<b>Acute effects</b>	
<b>Eyes</b>	May cause slight irritation.
<b>Skin</b>	May cause sensitization by skin contact. Substance may cause slight skin irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
<b>Inhalation</b>	May cause irritation of respiratory tract.

**Ingestion**

Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Chronic effects**

Repeated or prolonged exposure may cause central nervous system effects.

**Environmental hazard**

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Hazardous ingredients**

Chemical Name	CAS-No	Weight %
Calcium carbonate (limestone)	1317-65-3	50-60
Wood Fibers	65996-61-4	30-40
Hexylene Glycol	107-41-5	1-5
Starch	9005-25-8	1-5
1,1'-Biphenyl, bis(1-methylethyl)-	69009-90-1	1-5
Bifenthrin	82657-04-3	0.4
Petroleum distillates, hydrotreated light	64742-47-8	<1
Zeta-cypermethrin (F2700)	52315-07-8	0.07

**4. FIRST AID MEASURES**

Eye contact	Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
Skin contact	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.
Inhalation	Move person to fresh air. If person is not breathing, call 911 (within the U.S. and Canada) or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
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 by mouth to an unconscious person.
Notes to physician	This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

**5. FIRE-FIGHTING MEASURES****Flammable properties**

Powdered material may form explosive dust-air mixtures

**Sensitivity to Mechanical Impact**

Not applicable

**Sensitivity to Static Discharge**

Not applicable

**Suitable extinguishing media**Foam. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray or fog.**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus and full protective gear. Isolate fire area. Evaluate downwind.

**NFPA**

Health Hazard	2
Flammability	1
Stability	0
Special Hazards	-

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
<b>Environmental precautions</b>	Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.
<b>Methods for containment</b>	Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
<b>Methods for cleaning up</b>	Clean and neutralize spill area, tools and equipment by washing with bleach water and soap. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.
<b>Other</b>	For further clean-up instructions call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.
<b>Storage</b>	Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Store in original container only.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

### Exposure guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Calcium carbonate (limestone) 1317-65-3		TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	
Wood Fibers 65996-61-4		TWA: 5mg/m <sup>3</sup> ; PEL 15mg/m <sup>3</sup> (total, 5mg/m <sup>3</sup> (respiratory))		
Hexylene Glycol 107-41-5	Ceiling: 25 ppm		Ceiling: 25 ppm Ceiling: 125 mg/m <sup>3</sup>	
Starch 9005-25-8	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	
Chemical Name	British Columbia	Quebec	Ontario TWAEV	Alberta
Calcium carbonate (limestone) 1317-65-3	TWA: 10 mg/m <sup>3</sup> TWA: 3 mg/m <sup>3</sup> STEL: 20 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup>
Hexylene Glycol 107-41-5	Ceiling: 25 ppm	Ceiling: 25 ppm Ceiling: 121 mg/m <sup>3</sup>	CEV: 25 ppm	Ceiling: 25 ppm Ceiling: 121 mg/m <sup>3</sup>
Starch 9005-25-8	TWA: 10 mg/m <sup>3</sup> TWA: 3 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>
Petroleum distillates, hydrotreated light 64742-47-8	TWA: 200 mg/m <sup>3</sup> Skin			

### Occupational exposure controls

<b>Engineering measures</b>	Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.
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### Personal Protective Equipment

<b>General Information</b>	No information available.
<b>Respiratory protection</b>	No information available.
<b>Eye/face protection</b>	No information available.

<b>Skin and body protection</b>	Wear long-sleeved shirt, long pants, socks, shoes, and gloves.
<b>Hand protection</b>	Protective gloves
<b>Hygiene measures</b>	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 or bathe at the end of working.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	solid granules
<b>Physical state</b>	solid
<b>Odor</b>	No information available.
<b>pH</b>	7.33
<b>Melting Point/Range</b>	No information available.
<b>Freezing point</b>	No information available.
<b>Boiling Point/Range</b>	Not applicable
<b>Flash Point</b>	Not applicable
<b>Evaporation rate</b>	Not applicable
<b>Flammable properties</b>	Powdered material may form explosive dust-air mixtures
<b>Vapor pressure</b>	No information available.
<b>Vapor density</b>	No information available.
<b>Density</b>	0.77-0.83 g/cm <sup>3</sup>
<b>Water solubility</b>	No information available
<b>Percent volatile</b>	No information available.
<b>Partition coefficient:</b>	Not applicable
<b>Viscosity</b>	No information available.

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	Heat, flames and sparks
<b>Hazardous decomposition products</b>	Carbon oxides. Hydrogen chloride. Hydrogen fluoride.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute effects

#### Acute Toxicity

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.

Large doses of zeta-cypermethrin, ingested by laboratory animals, may produce signs of toxicity including tremors, incoordination, convulsions, staggered gait, and oral discharge.

<b>Eye contact</b>	Mild irritant
<b>Skin contact</b>	Slightly or non-irritating (rabbit)
<b>LD50 Dermal</b>	> 5000 mg/kg (Rat)
<b>LD50 Oral</b>	727.3 mg/kg (Rat) (Based on a similar product)
<b>LC50 Inhalation:</b>	> 2.11 mg/L 4 hr (Rat)
<b>Sensitization</b>	Sensitizer

### Chronic effects

**Chronic Toxicity**

Repeated or prolonged exposure may cause central nervous system effects.

**Carcinogenicity**

Bifenthrin: Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH). Did not show carcinogenic effects in animal experiments. Cypermethrin caused an increase in benign lung tumors in mice, but not in rats, and was negative for genotoxicity. EPA has classified zeta-cypermethrin as a possible human carcinogen based on this information, but does not regulate based on its low cancer risk.

**Mutagenicity**

Bifenthrin, Zeta-cypermethrin: Not genotoxic.

**Reproductive toxicity**

Zeta-cypermethrin: No toxicity to reproduction.

**Neurological Effects**

Tremors were associated with chronic exposure of laboratory animals to bifenthrin, which may disappear with continued exposure. Cypermethrin did not cause neurotoxicity in animal experiments.

**Developmental Toxicity**

Bifenthrin, Zeta-cypermethrin: Not teratogenic in animal studies.

**Target Organ Effects**

Bifenthrin: A slight increase in male mouse urinary bladder tumors at the highest dose was probably not of toxicological concern.

Chemical Name	ACGIH	IARC	NTP	OSHA	NIOSH - Target Organs
Calcium carbonate (limestone)					eyes, respiratory system, skin
Hexylene Glycol					eyes, CNS, respiratory system, skin
Starch					eyes, respiratory system, skin

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Bifenthrin (82657-04-3)				
Active Ingredient(s)	Duration	Species	Value	Units:
Bifenthrin	EC50	Aquatic organisms	0.11 - 0.57	µg/L
Bifenthrin	96 h LC50	Fish	0.1 - 2.0	µg/L
Bifenthrin	LD50 Oral	Bobwhite quail	>1800	mg/kg
Bifenthrin	LD50 Oral	Mallard duck	>2150	mg/kg
Bifenthrin	LD50	Bee	0.1	µg/bee

Zeta-cypermethrin (F2700) (52315-07-8)				
Active Ingredient(s)	Duration	Species	Value	Units:
Zeta-cypermethrin	LC50	Aquatic organisms	0.005 - 0.15	µg/L
	LC50	Fish	0.07 - 2.37	µg/L
	LD50 Oral	Bobwhite quail	>2000	mg/kg
	LD50	Bee	0.0014 - 0.043	µg/bee

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Petroleum distillates, hydrotreated light		LC50= 45 mg/L Pimephales promelas 96 h LC50= 2.2 mg/L Lepomis macrochirus 96 h LC50= 2.4 mg/L Oncorhynchus mykiss 96 h		LC50 = 4720 mg/L 96 h

**Environmental Fate**

Bifenthrin (82657-04-3)		
Active Ingredient(s)	Type of Test	Result
Bifenthrin	Bioconcentration factor (BCF)	1709
Bifenthrin	Half-life in soil	~85 days
Bifenthrin	log Pow	6.6
Bifenthrin	Mobility in soil	Not expected to reach groundwater

Bifenthrin	Stability in water	Stable to hydrolysis over a wide range of pH values.
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Zeta-cypermethrin (F2700) (52315-07-8)		
Active Ingredient(s)	Type of Test	Result
Zeta-cypermethrin	Bioconcentration factor (BCF) Bluefill sunfish (Lepomis macrochirus)	443
	Half-life in soil	2 - 4 weeks
	log Pow	5
	Mobility in soil	Not expected to reach groundwater
	Stability in water	Hydrolysis unstable at pH 9, half life 20-29 days at pH 5 and 7.

Chemical Name	log Pow
Hexylene Glycol	<0.14

**Bioaccumulation** Material will likely bioaccumulate in exposed species.

### 13. DISPOSAL CONSIDERATIONS

**Waste disposal methods** Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.

**Contaminated packaging** Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

### 14. TRANSPORT INFORMATION

**DOT** Not regulated for transportation if shipped in Non Bulk packaging. The classification below pertains to the shipment in Bulk packaging.

**Packaging Type** Bulk,  
**UN/ID No** UN3077  
**Hazard Class** 9  
**Packing group** III  
**Description** UN3077, Environmentally hazardous substance, solid, n.o.s. (Zeta-cypermethrin), 9, PGIII, Marine Pollutant  
**Additional information** Marine Pollutant mark only applies when shipping BULK packages.

**TDG** The "Marine Pollutant" marking is only applicable when shipped by vessel, and is not applicable when shipped only by road or rail in Canada.

**UN/ID No** UN3077  
**Hazard Class** 9  
**Packing group** III  
**Marine pollutant** Bifenthrin, Zeta-cypermethrin.  
**Description** UN3077, Environmentally hazardous substance, solid, n.o.s. (Bifenthrin, Zeta-cypermethrin), 9, PGIII, Marine Pollutant

#### ICAO/IATA

**UN/ID No** UN3077  
**Hazard Class** 9  
**Packing group** III  
**Marine pollutant** Bifenthrin Zeta-cypermethrin  
**Description** UN3077, Environmentally hazardous substance, solid, n.o.s. (Bifenthrin, Zeta-cypermethrin), 9, PGIII, Marine Pollutant

#### IMDG/IMO

**UN/ID No** UN3077  
**Hazard Class** 9  
**Packing group** III  
**EmS No.** F-A, S-F

**Marine pollutant  
Description**Bifenthrin Zeta-cypermethrin  
UN3077, Environmentally hazardous substance, solid, n.o.s. (Bifenthrin, Zeta-cypermethrin), 9,  
PGIII, Marine Pollutant**15. REGULATORY INFORMATION****U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Bifenthrin	82657-04-3	0.4	1.0

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	yes
<b>Chronic Health Hazard</b>	yes
<b>Fire Hazard</b>	no
<b>Sudden Release of Pressure Hazard</b>	no
<b>Reactive Hazard</b>	no

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**TSCA Inventory (United States of America)**

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(d) - 716.120(a) - Health and Safety Reporting - List of Substances
1,1'-Biphenyl, bis(1-methylethyl)-	06/28/1984

**International Regulations****Mexico - Grade**

Slight risk, Grade 1

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**

D2B Toxic materials



**16. OTHER INFORMATION**

**Revision Date:** July 2013  
**Reason for revision:** (M)SDS sections updated.

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**Prepared By**

**End of Material Safety Data Sheet**