

Net Contents: 25 lbs

Talstar®



GRANULAR INSECTICIDE

For use to control Ants (including Imported Fire Ants), Mole Crickets and other Insect pests on lawns in landscaped areas and perimeters around residential, institutional, public, commercial and industrial buildings, parks, recreational areas and athletic fields.

EPA Reg. No. 279-3168

EPA Est. 279-IL-1

Active Ingredient:	By Wt.
Bifenthrin*	0.2%
Other Ingredients	99.8%
	100.0%

*Cis isomers 97% minimum, trans isomers 3% maximum.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

See other panels for additional precautionary information.
or
See back panel pamphlet for additional precautionary information and complete directions for use.



FMC Corporation
2929 Walnut Street
Philadelphia PA 19104

10-20-16

FIRST AID	
If on skin or clothing	<ul style="list-style-type: none"> • 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.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-(800)-331-3148 for Emergency Assistance.	
NOTE TO PHYSICIAN	
This product is a pyrethroid. If large amounts have been ingested, milk, cream and other digestible fats and oils may increase absorption and so should be avoided.	
For Information Regarding the Use of this Product Call 1-800-321-1FMC (1362).	

PRECAUTIONARY STATEMENTS Hazards to Humans (and Domestic Animals)

Caution
Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing.

Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates. Do not apply when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas.

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Sweeping any product that lands on a driveway, sidewalk, or street, back onto the treated area of the lawn or garden will help to prevent run off to water bodies or drainage systems.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Not for use on plants being grown for sale of other commercial use, or for commercial seed production, or for research purposes. For use on plants intended for aesthetic purposes or climate modification and being grown in interior landscapes, ornamental gardens or parks, or lawns or grounds.

Do not apply more than 0.2 lb. active ingredient (a.i.) per acre per application on residential use sites (i.e., around private homes, apartment buildings, condominiums, non-agricultural outbuildings, non-commercial greenhouses, pre-schools or day care facilities). May be applied at up to 0.4 lb. a.i. per acre per application on non-residential use sites (i.e., around institutional, public, commercial or industrial buildings; parks; recreational areas or athletic fields).

Do not broadcast apply more than 0.4 lbs. A.I. (200 lbs. Talstar PL Granular) per Acre per year.

Apply this product directly to the lawn or garden area. Water treated area as directed on this label. Do not water to the point of run-off.

Do not make applications during rain.
 Not for use on golf courses, sod farms, nurseries, in commercial greenhouses or on grass grown for seed.

STORAGE AND DISPOSAL

Prohibitions

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use close tightly.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. **Call CHEMTREC (Transportation and spills): (800) 424-9300.**

To confine spill: Cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal

Paper and plastic bags: **Non-refillable. Do not reuse or refill this container.** Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration, or, by burning. Do not burn unless allowed by state or local authorities. If burned, stay out of smoke.

LAWN AND PERIMETER APPLICATIONS

Lawn Application: Broadcast Talstar® PL granular insecticide with suitable application equipment to ensure uniform coverage over the treatment area.

APPLICATION RATES

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, Talstar PL may be applied at up to 0.4 lb AI/A to control each of the pests listed in this Table. However, for residential lawn use, do not apply more than 0.2 lbs. A.I. per Acre per application.

Pest	Active ingredient lbs. per acre	Application Rate Talstar PL	
Armyworms ¹ Cutworms ¹ Sod Webworm ¹	0.1 lbs. AI/A	50 lbs. per acre	1.15 lbs. per 1000 sq. ft.
Annual Bluegrass Weevil (<i>Hyperodes</i>) (Adult) ² Billbugs (Adult) ³ Black Turfgrass Ataenius (Adult) ⁴ Leafhoppers Mealybugs	0.1 - 0.2 lbs. AI/A	50 - 100 lbs. per acre	1.15 - 2.3 lbs. per 1000 sq. ft.
Ants Centipedes Chinch Bugs ⁵ European Crane Flies (larvae) ⁶ Fleas (Larvae) ⁷ Fleas (Adult) Imported Fire Ants (Adult) ⁸ Imported Fire Ants (Mounds) ⁸ Millipedes Mole Cricket (Adult) ⁹ Mole Cricket (Nymph) ¹⁰ Pillbugs Scorpions ¹¹ Sowbugs Ticks ¹²	0.2 - 0.4 lbs. AI/A	100 - 200 lbs. per acre	2.3 - 4.6 lbs. per 1000 sq. ft.

In New York State, this product may NOT be applied to any grass or turf area within 100 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch).

In New York State, do make a single repeat application of Talstar PL Granular if there are signs of renewed insect activity, but not sooner than two weeks after the first application.

Comments

¹**Armyworms, Cutworms, and Sod Webworms:** To ensure optimum control, irrigate the treated area with up to 0.1 inches of water immediately after application to activate (release from the granule) the insecticide.

²**Annual Bluegrass Weevil (*Hyperodes*) adults:** Applications should be timed to control adult weevils as they leave their overwintering sites and move into grass areas. This movement generally begins when *Forsythia* is in full bloom and con-

cludes when flowering dogwood is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.

³**Billbug adults:** Applications should be made when adult billbugs are first observed during April and May. Degree day models have been developed to optimize application timing. Consult your State Cooperative Extension Service for information specific to your region. In temperate regions, spring applications targeting billbug adults will also provide control of over-wintered chinch bugs.

⁴**Black Turfgrass Ataenius adults:** Applications should be made during May and July to control the first and second generation of black turfgrass ataenius adults, respectively. The May application should be timed to coincide with the full bloom stage of Vanhoutte spiraea (*Spiraea vanhouttei*) and horse chestnut (*Aesculus hippocastanum*). The July application should be timed to coincide with the blooming of Rose of Sharon (*Hibiscus syriacus*).

⁵**Chinch Bugs:** Chinch bugs infest the base of grass plants and are often found in the thatch layer. Irrigate the treated area with up to 0.25 inches of water immediately after application to activate (release from the granule) the insecticide. Chinch bugs can be one of the most difficult pests to control in grasses and the higher applications rates may be required to control populations that contain both nymphs and adults during the summer.

⁶**European Crane Flies:** Treatments should be made to control early to mid-season larvae (approximately August – February) as they feed on plant crowns. Treatments made to late-season larvae (approximately March - April) may only provide suppression. Consult your local extensions agent for specific recommendations for your area.

⁷**Flea larvae:** Flea larvae develop in the soil of shaded areas that are accessible to pets or other animals. Irrigate the treated area with up to 0.5 inches of water immediately after application to activate (release from the granule) the insecticide.

⁸**Imported Fire ants:** Control will be optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound treatments that will control existing colonies. If the soil is not moist, then it is important to irrigate before application. Broadcast treatments should apply 0.2 to 0.4 lb AI/A. Mounds should be treated by applying ½ cup of Talstar PL Granular per mound and then drenching the mound with 1 to 2 gallons of water. The mounds should be treated with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. Treat three feet out around the mound. For best results, apply in cool weather (65 - 80° F) or in early morning or late evening hours.

⁹**Mole Cricket adults:** Achieving acceptable control of adult mole crickets is difficult because preferred grass areas are subject to continuous invasion during the early spring by this extremely active stage. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized. Grass areas that receive pressure from adult mole crickets should be treated at peak egg hatch to ensure optimum control of subsequent nymph populations (see below).

¹⁰**Mole Cricket nymphs:** Grass areas that received intense adult mole cricket pressure in the spring should be treated immediately prior to peak egg hatch. Optimal control is achieved at this time because young nymphs are more susceptible to insecticides and they are located near the soil surface where the insecticide is most concentrated. Control of larger, more damaging, nymphs later in the year may require both higher application rates and more frequent applications to maintain acceptable control. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized.

¹¹**Scorpions:** To ensure optimum control, treat the building perimeter at dusk to prevent outdoor scorpions from entering the building. Scorpions reside hidden in cracks and voids during the day and are active at night at temperatures above 77°F/25°C. Resting areas can be identified at night using a blacklight (UV bulb) as scorpions will fluoresce. These areas should also be treated. Prior to treatment, to increase treatment efficacy, remove trash, debris, or firewood that scorpions may use as resting sites.

¹²**Ticks (Including ticks that may transmit Lyme Disease and Rocky Mountain Spotted fever):** Do not make spot applications. Treat the entire area where exposure to ticks may occur. Use higher application rates when treating areas with dense ground cover or heavy leaf litter. Ticks may be reintroduced from surrounding areas on host animals. Do not allow public use of treated areas during application.

Deer ticks (*Ixodes sp.*) have a complicated life cycle that ranges over a two year period and involves four life stages. Applications should be made in mid to late-spring to control larvae and nymphs that reside in the soil and leaf litter.

American dog ticks may be a considerable nuisance in suburban settings, particularly where homes are built on land that was previously field or forest. These ticks commonly congregate along paths or roadways where humans are likely to be encountered. Applications should be made as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

Perimeter Application: Apply to ground area 5 to 10 feet wide around and adjacent to the structure.

Boundary Applications: Apply to soil areas, ornamental gardens, pavement crevices, fencelines, planter areas, vegetation areas and mulch areas

Applic. Rate: Pounds Per 1,000 sq. ft.	Band Width	Pounds of Talstar PL Granular for Perimeter Applications Linear Distance (Feet) Around Structure								
		100	150	200	250	300	400	500	1,000	
2.3	5 feet	1.3	1.9	2.5	3.0	3.6	4.8	5.9	11.7	
2.3	10 feet	3.0	4.2	5.3	6.5	7.6	9.9	12.2	23.7	
3.0	5 feet	1.7	2.5	3.3	3.9	4.7	6.3	7.7	15.2	
3.0	10 feet	3.9	5.4	6.9	8.5	9.9	12.9	15.9	30.9	
3.5	5 feet	2.0	2.9	3.8	4.5	5.4	7.2	8.9	17.5	
3.5	10 feet	4.5	6.3	8.0	9.8	11.4	14.9	18.3	35.5	
4.6	5 feet	2.6	3.8	5.0	6.0	7.2	9.6	11.8	23.4	
4.6	10 feet	6.0	8.4	10.6	13.0	15.2	19.8	24.4	47.4	

Note: The amounts of Talstar PL Granular listed in the above table are based on the total area being treated. This area is determined by multiplying the linear distance by the band width and then adding to that value the area of a circle whose radius is equal to the band width (to account for the area treated at the four corners of a rectangular structure).

Fire ant mound treatment: Apply 1/2 cup of Talstar® PL Granular Insecticide per mound and then drench the mound with 1 to 2 gallons of water. The mound should be drenched with sufficient force to break its apex and allow the insecticide to flow into the ant tunnels. Treat three feet out around the mound. For best results, apply in cool weather (65 to 80°F) or in early morning or late evening hours. Treat new mounds as they appear. Food utensils such as teaspoons and measuring cups should not be used for food purposes after use with insecticide

INDUSTRIAL NON-AGRICULTURAL APPLICATIONS

(Including Industrial Sites, Parks, Ball Fields and Cemeteries)

Broadcast Spot Applications: For the control of actively foraging ants (including Imported Fire Ants) broadcast uniformly 2.3 to 4.6 lbs. Talstar PL granular insecticide per 1000 sq. ft. (0.2 to 0.4 lbs. a.i./Acre). See comments section under **Lawn Applications** for additional rate recommendations.

Pad Mounted Electrical Sites: To reduce or prevent ant mound building activity on electrical pads, uniformly distribute 1.0 to 1.5 Tablespoons (0.06 to 0.09 lbs.) of Talstar PL granular insecticide per 4 sq. ft. of mounting pad. Where existing transformers are completely or partially filled with soil excavated by resident ants, remove any excess fill and level the remaining soil prior to application. **Food utensils such as tablespoons must not be used for food purposes after use in measuring pesticides.**

Note: Electrical transformers appear to be more attractive to ants during the cooler months. For best results treat in the Fall or early Spring.

Talstar PL Spreader Setting Guide							
Application Rate lbs/1,000 sq.ft.	Lesco® Broadcast - New	Lesco® Broadcast - Old	Scotts® HandyGreen® II	Scotts® SpeedyGreen® 2000	Scotts® Standard Broadcast	Gandy® Models 42, 36, 30, 24 ¹	Spyker® All Models (Push)
1.15 lbs	5	A + 1/2	2	-	**	10.5	2
2.3 lbs	7	B + 1/4	3	2*	**	12	2.6
4.6 lbs	9	C + 1/2	5	3 1/4	3	16	3.1
Pattern Setting	--	--	--	--	--	-	--
Width Ft.	10	10	10	10	10		

Ground Speed at ~3.1 mph for all settings
¹2 is the lowest setting for this model
²**This model does not have settings fine enough for this application

Resistance: Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state pest management authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate con-

trol. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and suspect that resistance is a reasonable cause, immediately consult your local company representative or pest management advisor for the best alternative method of control for your area.

Conditions of Sale and Limitation of Warranty and Liability:

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control of FMC or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) seller or FMC, and buyer assumes the risk of any such use.

To the extent consistent with applicable law, FMC or seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF FMC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF FMC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

This Conditions of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement.

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SAFETY DATA SHEET
TALSTAR® PL GRANULAR INSECTICIDE

SDS # : 1686-A
Revision date: 2015-04-10
Format: NA
Version 2



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name TALSTAR® PL GRANULAR INSECTICIDE

Other means of identification

Product Code(s) 1686-A

Synonyms BIFENTHRIN: (2-methyl[1,1'-biphenyl]-3-yl)methyl
3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate (CAS name);
2-methylbiphenyl-3-ylmethyl
(Z)-(1RS)-cis-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate
(IUPAC name)

Active Ingredient(s) Bifenthrin

Chemical Family Pyrethroid Pesticide

Recommended use of the chemical and restrictions on use

Recommended Use: Insecticide, Miticide

Restrictions on Use: Use as recommended by the label

Manufacturer Address

FMC Corporation
1735 Market Street
Philadelphia, PA 19103
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)
Medical Emergencies:
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

GHS Label elements, including precautionary statements**EMERGENCY OVERVIEW****Danger****Hazard Statements**

H350 - May cause cancer

H370 - Causes damage to organs

H372 - Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements - Prevention**

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P281 - Use personal protective equipment as required

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

Precautionary Statements - Response

P321 - Specific treatment (see .? on this label)

P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor

Precautionary Statements - Storage

P405 - Store locked up

Precautionary Statements - Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS**Chemical Family** Pyrethroid Pesticide.

Chemical name	CAS-No	Weight %
Bifenthrin	82657-04-3	0.2
crystalline silica, quartz	14808-60-7	>80

Synonyms are provided in Section 1.

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 further treatment advice.

Inhalation	Move 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.
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.
Most important symptoms and effects, both acute and delayed	Central nervous system effects.
Indication of immediate medical attention and special treatment needed, if necessary	Treat symptomatically. This product is a pyrethroid. If large amounts have been ingested, milk, cream, and other digestible fats and oils may increase absorption and so should be avoided.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use CO ₂ , dry chemical, or foam.
Specific Hazards Arising from the Chemical	Powdered material may form explosive dust-air mixtures
Explosion data	
Sensitivity to Mechanical Impact	Not sensitive.
Sensitivity to Static Discharge	Not sensitive.
Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Isolate and post spill area. Remove all sources of ignition. Ventilate the area. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
Other	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
Environmental Precautions	See Section 12 for additional Ecological Information.
Methods for Containment	Use a wet sweeping compound or water to prevent dust formation.
Methods for cleaning up	Sweep up and shovel into suitable containers for disposal. 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.

7. HANDLING AND STORAGE

Handling	Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.
Storage	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.
Incompatible products	None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
crystalline silica, quartz 14808-60-7	TWA: 0.025 mg/m ³	See note	IDLH: 50 mg/m ³ TWA: 0.05 mg/m ³	Mexico: TWA 0.1 mg/m ³
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
crystalline silica, quartz 14808-60-7	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.10 mg/m ³	TWA: 0.025 mg/m ³

Appropriate engineering controls

Engineering measures Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin and Body Protection Wear long-sleeved shirt, long pants, socks, and shoes.

Hand Protection Protective gloves

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures 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. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.

General information If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Light tan to tan , Granules
Physical State	Solid
Color	cream to tan
Odor	Slight Musty
Odor threshold	No information available
pH	6.8-7.1
Melting point/freezing point	Not applicable
Boiling Point/Range	No information available
Flash point	Not applicable
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Density	1.39 lb/ft ³
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available

Oxidizing properties No information available
 Molecular weight No information available
 Bulk density 50-53 lb/ft³

10. STABILITY AND REACTIVITY

Reactivity None under normal use conditions
 Chemical Stability Stable under recommended storage conditions.
 Possibility of Hazardous Reactions None under normal processing.
 Hazardous polymerization Hazardous polymerization does not occur.
 Conditions to avoid Excessive heat. Keep away from open flames, hot surfaces and sources of ignition.
 Incompatible materials None known.
 Hazardous Decomposition Products Carbon oxides (COx), Hydrogen chloride, Hydrogen fluoride.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral > 5000 mg/kg (rat)
 LD50 Dermal > 2000 mg/kg (rabbit)
 LC50 Inhalation No information available
 Serious eye damage/eye irritation Non-irritating. Product dust may cause mechanical eye irritation.
 Skin corrosion/irritation Non-irritating.
 Sensitization Non-sensitizer.

Information on toxicological effects

Symptoms Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity Bifenthrin: Long-term exposure caused neurotoxicity (tremors and impaired gait) in the early exposure in animal studies, but tremors disappeared with continued exposure.
 Mutagenicity Bifenthrin: Not genotoxic in laboratory studies.
 Carcinogenicity Bifenthrin: Weak treatment-related response for liver adenocarcinomas and benign bladder tumors (lesion) in male mice. This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product. However, if granules are pulverized or crushed into a fine, respirable powder, silica exposure via inhalation is probable.
 Neurological effects Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure.
 Reproductive toxicity Bifenthrin: No toxicity to reproduction in animal studies.
 Developmental toxicity Bifenthrin: Not teratogenic in animal studies.
 STOT - single exposure Not classified.
 STOT - repeated exposure Not classified.
 Target organ effects
 Neurological effects Bifenthrin: Central Nervous System.
 Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure.
 Aspiration hazard No information available.

Chemical name	ACGIH	IARC	NTP	OSHA
crystalline silica, quartz 14808-60-7	A2	Group 1	Known	X

12. ECOLOGICAL INFORMATIONEcotoxicity

Bifenthrin (82657-04-3)				
Active Ingredient(s)	Duration	Species	Value	Units
Bifenthrin	96 h LC50	Fish	0.1	µg/L
	72 h EC50	Algae	0.822	mg/L
	48 h EC50	Crustacea	0.11	µg/L
	21 d NOEC	Fish	0.012	µg/L
	21 d NOEC	Crustacea	0.0013	µg/L

Persistence and degradability Bifenthrin: Moderately persistent. Does not readily hydrolyze. Not readily biodegradable.

Bioaccumulation Bifenthrin: The substance has a potential for bioconcentration.

Mobility Bifenthrin: Immobile. Not expected to reach groundwater.

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 This material is not a hazardous material as defined by U.S. Department of Transportation at 49 CFR Parts 100 through 185.

TDG

UN/ID no UN3077
Proper Shipping Name Environmentally hazardous substance, solid, n.o.s.
Hazard class 9
Packing Group III
Marine Pollutant Bifenthrin.
Description UN3077, Environmentally hazardous substance, solid, n.o.s. (bifenthrin), 9, PGIII, Marine Pollutant

ICAO/IATA

UN/ID no UN3077
Proper Shipping Name Environmentally hazardous substance, solid, n.o.s.
Hazard class 9
Packing Group III
Description UN3077, Environmentally hazardous substance, solid, n.o.s. (bifenthrin), 9, PGIII, Marine Pollutant

IMDG/IMO

UN/ID no UN3077
Proper Shipping Name Environmentally hazardous substance, solid, n.o.s.
Hazard class 9
Packing Group III
EmS No. F-A, S-F
Marine Pollutant Bifenthrin
Description UN3077, Environmentally hazardous substance, solid, n.o.s. (bifenthrin), 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	82657-04-3	0.2	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

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

FIFRA Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Harmful if absorbed through skin.

This pesticide is extremely toxic to fish and aquatic invertebrates.

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical name	California Prop. 65
crystalline silica, quartz - 14808-60-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Bifenthrin 82657-04-3	X		
crystalline silica, quartz 14808-60-7	X	X	X

International Inventories

TALSTAR® PL GRANULAR INSECTICIDE

SDS # : 1686-A
 Revision date: 2015-04-10
 Version 2

Component	TSCA (United States)	DSL (Canada)	EINECS/ELI NCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Bifenthrin 82657-04-3 (0.2)				X	X	X		
crystalline silica, quartz 14808-60-7 (>80)	X	X	X	X	X	X	X	X

Mexico - Grade Moderate risk, Grade 2

WHMIS Hazard Class D2A - Very toxic materials



16. OTHER INFORMATION

NFPA	Health Hazards 2	Flammability 0	Instability 0	Special Hazards -
HMIS	Health Hazards 2*	Flammability 0	Physical hazard 0	Personal Protection X

*Indicates a chronic health hazard.

Revision date: 2015-04-10
Revision note Format Change

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End of Safety Data Sheet