



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

September 29, 2022

Tasha Lott
Product Registration Manager
Albaugh, LLC
1525 NE 36th Street
Ankeny, IA 50021

Subject: Notification per PRN 98-10 – Add new placement of RUP statement
Product Name: Bifenthrin 25.1% Pro
EPA Registration Number: 42750-394
Application Date: 07/14/2022
Decision Number: 587351

Dear Ms. Lott:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped “NOTIFICATION” and placed in our records.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

If you have any questions, please contact Jamey Shuler by phone at (202) 566-2898, or via email at Shuler.Jamey@epa.gov.

Sincerely,

A handwritten signature in cursive script that reads "J. Herrick".

Jacquelyn Herrick, Product Manager 03
Invertebrate & Vertebrate Branch 1
Registration Division (7505T)
Office of Pesticide Programs

RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

NOTIFICATION

42750-394

BIFENTHRIN GROUP 3A INSECTICIDE

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

09/29/2022

BIFENTHRIN 25.1% PRO

[ABN: BIFEN G/N 2 EC SELECT™]

Insecticide

For Commercial Non-Food Use in Interiorscapes and on Outdoor Ornamentals, Christmas Trees, Nurseries, Lawns, Sod Farms, and Golf Courses.

ACTIVE INGREDIENTS*

Bifenthrin: (2 methyl[1,1'-biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-cyclopropanecarboxylate*25.10%

OTHER INGREDIENTS:**.....74.90%

TOTAL:..... 100.00%

*Cis isomers 97% minimum, trans isomers 3% maximum. **Contains petroleum distillates. This product contains 2 pounds active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN

WARNING/AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
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.
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 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.
IF IN EYES:	<ul style="list-style-type: none"> • 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. • Call a poison control center or doctor for treatment advice.
<p>Note to Physician: This product is a pyrethroid. This product also contains aromatic hydrocarbons. Because of the risk of hydrocarbon pneumonitis, if even tiny amounts are aspirated into the lung during emesis, consideration should be given to gastric lavage with endotracheal tube in place. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Animal and vegetable fats, milk, cream and alcohol may increase absorption and should not be administered. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.</p> <p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. Emergency Phone Numbers CHEMTREC 1-800-424-9300 (transportation and spills)</p>	

[See inside booklet for additional First Aid, Precautionary Statements and Directions For Use.]

EPA Reg. No. 42750-394

EPA Est. No. XXX-XX-XXXX

Net Contents: _____ gallons

MANUFACTURED FOR

Albaugh, LLC

1525 NE 36th Street

Ankeny, IA 50021



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

WARNING/AVISO. May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

All pesticide handlers (mixers, loaders, and applicators) must wear:

- long sleeved coveralls worn over a minimum of short-sleeved shirt and short pants,
- socks,
- chemical-resistant footwear,
- chemical-resistant gloves made of barrier laminate or Viton \geq 14 mils,
- Protective eyewear.

After the product is diluted in accordance with label directions for use, and/or when mixing and loading using a closed spray tank transfer system, or an in-line injector system, shirts, pants, socks, shoes, and waterproof gloves are sufficient.

In addition, all pesticide handler must wear a minimum of a NIOSH-approved elastomeric half mask respirator with organic vapor (OV) cartridges and combination R or P filters; OR a NIOSH-approved gas mask with OV canisters; OR a NIOSH-approved powered air purifying respirator with OV cartridges and combination HE filters.

All pesticide handlers must wear protective eyewear when working in non-ventilated space or applying termiticide by rodding or sub-slab injection.

USER SAFETY RECOMMENDATIONS

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change clothing.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high-water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees and other pollinating insects exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area. Protect pollinating insects by following label directions to minimize drift and to reduce risk to those organisms.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

PHYSICAL/CHEMICAL HAZARDS

DO NOT use or store near heat or open flame.

DO NOT mix or allow contact with oxidizing agents, as a hazardous chemical reaction may occur.

DIRECTIONS FOR USE

RESTRICTED USE PESTICIDE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through spray drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide application.

DO NOT USE THIS PRODUCT ON GOLF COURSES AND SOD FARMS IN NASSAU COUNTY OR SUFFOLK COUNTY, NEW YORK.

For both indoor and outdoor use.

Spot treatments must not exceed two square feet in size (for example, 2 ft. by 1 ft. or 4 ft. by 0.5 ft.).

Treat surfaces to ensure thorough coverage but avoid runoff.

To treat insects harbored in voids and cracks-and-crevices, applications must be made in such a manner to limit dripping and avoid runoff onto untreated structural surfaces and plants.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handler of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls, Chemical-resistant gloves made of Barrier Laminate or Viton \geq 14 mil..

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard, 40 CFR part 170. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, and greenhouses.

DO NOT allow people or pets on treated areas until the spray has dried.

MANDATORY SPRAY DRIFT MANAGEMENT

Ground Boom Applications:

- User must only apply with the nozzle height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to select nozzle and pressure that deliver medium or coarser droplets (ASABE S572).
- Do not apply when wind speeds exceed 15 mph at the application site.
- Do not apply during temperature inversions.

Airblast Applications:

- Sprays must be directed into the canopy.

- Do not apply when wind speeds exceed 15 mph at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- Do not apply during temperature inversions.

Spray Drift Advisories

**THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.**

IMPORTANTCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle – Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

BOOM HEIGHT – Ground Boom

- For ground equipment, the boom should remain level with the crop and have minimal bounce.

SHIELDED SPRAYERS

- Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

- When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

- Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

- Drift potential generally increases with wind speed. **AVOID APPLICATIONS DURING GUSY WIND CONDITIONS.**
- Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

NON-TARGET ORGANISM ADVISORY STATEMENT (Environmental Hazards)

- This product is highly toxic to bees and other pollinating insects exposed to direct treatment or to residues in/on blooming crops or weeds. Protect pollinating insects by following label directions intended to minimize drift and reduce pesticide risk to these organisms.

Handheld Technology Applications:

- Take precautions to minimize spray drift.

RESISTANCE MANAGEMENT

For resistance management, BIFENTHRIN 25.1% PRO contains a Group 3A Insecticide. Any insect/mite

population may contain individuals naturally resistant to BIFENTHRIN 25.1% PRO and other Group 3A insecticides. The resistant individuals may dominate the insect/mite population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance management strategies should be followed.

To delay insecticide resistance, take the following steps:

- Rotate the use of BIFENTHRIN 25.1% PRO or other Group 3A insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact an Albaugh LLC representative at 1-800-247-8013.

GENERAL INFORMATION

For use on plants intended for aesthetic purposes or climactic modifications and being grown in interior plantscapes. Also for use on outdoor ornamentals, Christmas trees, nurseries, lawns, sod farms and golf courses.

NOTE: Christmas trees, nurseries, and sod farms fall within the scope of WPS.

General Applications Instructions

This product formulation mixes readily with water and other aqueous carriers, and controls listed insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in interiorscapes, hotels, shopping malls, office buildings, and, outdoor plantscapes, around residential dwellings, parks, institutional, recreational, athletic fields, and home lawns. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity within 365 days of application.

This product may be tank-mixed with other products, including insect growth regulators. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the

applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. The addition of spreader stickers is not necessary. The physical compatibility of this product may vary with different sources of pesticide products, and local cultural practices. Any tank mixture which has not been previously tested should be prepared on a small scale (pint or quart jar), using the proper proportions of chemicals and water to ensure the physical compatibility of the mixture.

The following procedure is for preparation of a new tank, mix, unless specified otherwise in label directions: (1) Add wettable powders to tank water, (2) Agitate, (3) Add liquids and flowables, (4) Agitate, (5) Add emulsifiable concentrates, and (6) Agitate. If a mixture is found to be incompatible following this order of addition, try reversing the order of addition, or increase the volume of water. Note: If the tank-mixture is found to be compatible after increasing the amount of water, then the sprayer will need to be recalibrated for a higher volume application. Do not allow tank mix to stand overnight.

All outdoor spray applications must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses:

1. Application to pervious surfaces such as soil, lawn, turf, and other vegetation;
2. Perimeter band treatments of 7 feet wide or less from the base of a man-made structure to pervious surfaces (e.g., soil, mulch, or lawn);
3. Applications to underside of eaves, soffits, doors, or windows permanently protected from rainfall by a covering, overhang, awning, or other structure;
4. Applications around potential exterior pest entry points into man-made structures such as doorways and windows, when limited to a band not to exceed one inch;
5. Applications to vertical surfaces (such as the side of a man-made structure) directly above impervious surfaces (e.g., driveways, sidewalks, etc.), up to 2 feet above ground level;
6. Applications to vertical surfaces directly above pervious surfaces, such as soil, lawn, turf, mulch or other vegetation) only if the pervious surface does not drain into ditches, storm drains, gutters, or surface waters.

General Use Directions

When applying via submersion (i.e. to ornamental trees), completely submerge the container with drain holes or root ball stabilized by burlap in a tank contained diluted product. Do not remove burlap wrap or containers with drain holes prior to submerging. Keep the container or root ball submerged until complete soil saturation has occurred, normally about 30 seconds.

Precautions: during all operations (submerging, drenching, injecting), wear chemical resistant apron in addition to other PPE listed for applicators and handlers. Make applications in a well-ventilated area. Environmental factors significantly affect phytotoxicity. This product has been tested on numerous ornamental plants without causing serious phytotoxicity. However, because of the numerous varieties grown, treat a small group of plants at the labeled rate under the anticipated growing conditions and observed for phytotoxic symptoms for at least 7 days before a large number of plants are treated.

Note: The professional user assumes the responsibility for determining if this product is safe to treat plants under commercial growing conditions.

Restrictions:

DO NOT apply to pets, crops, or sources of electricity.

DO NOT treat firewood.

DO NOT allow spray to contact food, foodstuffs, food contacting surfaces, food utensils or water supplies.

Keep children and pets off treated areas following application until the spray has dried.

DO NOT apply by air.

DO NOT use in greenhouses.

DO NOT apply this product through any type of irrigation system.

DO NOT apply when a temperature inversion exists.

DO NOT apply for surface feeding pests if rain is expected within 12 hours (or whatever time is necessary for the spray to dry).

For turf treatment, apply with nozzles not more than 2 feet above the grass.

DO NOT apply within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds.

DO NOT apply when grass areas are waterlogged, or the soil is saturated with water (i.e., will not accept irrigation).

DO NOT apply or irrigate to the point of run-off.

DO NOT make applications during rain.

DO NOT make applications when rainfall is expected before the product has sufficient time to dry (minimum 4 hours). Rainfall within 24 hours after application may cause unintended runoff of pesticide application.

Vinyl and Aluminum Siding: **DO NOT** spray directly onto vinyl or aluminum siding. If this product inadvertently contacts vinyl or aluminum siding (particularly light colored, aged, weathered or otherwise damaged), it may result in staining, bleaching or discoloration. Factors such as extreme heat and direct sunlight can promote damage when using emulsifiable concentrates. Avoid application to vinyl or aluminum siding while exposed to direct sunlight or during the heat of the day.

Distributors: Sell in Original Packages Only.

BUFFER ZONE AND WATER PROTECTION STATEMENTS

1. For soil or foliar applications, do not apply by ground within 25 feet of lakes reservoirs, rivers, permanent streams, marshes, or natural ponds, estuaries and commercial fish farm ponds.
2. Do not spray the product into fish pools, ponds, streams, or lakes.
3. Do not apply directly to sewers or storm drains, or to any area like a drain or gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur.
4. Do not allow the product to enter any drain during or after application.
5. Do not apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment.
6. Do not apply or irrigate to the point of runoff.
7. Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).
8. Do not apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).
9. For outdoor applications to commercial nurseries:
 - Do not apply when the wind speed is greater than 15 mph.
 - Applicators are required to select the nozzle and pressure that deliver a medium or coarser droplet size (ASABE S572).
 - For soil or foliar applications, do not apply by ground equipment within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds.

VEGETATIVE FILTER STRIPS

Construct and maintain a vegetative filter strip, according to the width specified below, of grass or other permanent vegetation between the field edge and nearby down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; rivers; streams; marshes or natural ponds; estuaries; and commercial fish farm ponds).

Only apply products containing (name of pyrethroid) onto fields where a maintained vegetative filter strip of at least 25 feet exists between the field edge and where a down gradient aquatic habitat exists. This minimum required width of 25 feet may be reduced or removed under the following conditions:

- For Western irrigated agriculture, a maintained vegetative filter strip of at least 10 feet wide is required. Western irrigated agriculture is defined as irrigated farmland in the following states: WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM, and TX (west of I-35).
 - For Western irrigated agriculture, if a sediment control basin is present, a vegetative filter strip is not required.
- In all other areas, a vegetative filter strip with a minimum width of 25 feet is required, unless the following conditions are met. The vegetative filter strip requirement may be reduced from 25 feet to 15 feet if at least one of the following applies:
 - The area of application is considered prime farmland (as defined in 7 CFR § 657.5).
 - Conservation tillage is being implemented on the area of application. Conservation tillage is defined as any system that leaves at least 30% of the soil surface covered by residue after planting. Conservation tillage practices can include mulch-till, no-till, or strip-till.
 - A functional terrace system is maintained on the area of application.
 - Water and sediment control basins for the area of application are functional and maintained.
 - The area of application is less than or equal to 10 acres.

For further guidance on vegetated filter strips, refer to the following publication for information on constructing and maintaining effective buffers: Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. <https://www.regulations.gov/document?D=EPA-HQ-OPP-2008-0331-0175>

APPLICATION LAWNS

This product may be used as a broadcast treatment. To accomplish uniform control when applying to dense grass foliage, use volumes of up to 10 gallons per 1000 square feet.

For low water volume usage, less than 2 gallons/1000 square feet, addition of a non-ionic or silicone based surfactant (0.25% v/v) is recommended, as is immediate irrigation of treated area with at least 0.25 inches of water following application to ensure efficacy of sub-surface pests including Mole Crickets.

Pests	Product Application Rate
Annual Bluegrass Weevil ¹ (Listronotus, formerly Hyperodes)	0.07 – 0.15 fl. oz. per 1000 ft ²
Armyworms ²	
Billbugs	
Crane Flies ³	
Crickets	
Cutworms ²	
Earwigs	
Fall Webworms	
Fleas (adults, larvae)	
Grasshoppers	

Mites Sod Webworms ² Spittlebugs	
Ants Chinch Bugs Imported Fire Ants ⁵ Japanese Beetles (adult) Mole Crickets ⁴ Stink Bugs Ticks ⁶	0.07 – 0.30 fl. oz. per 1000 ft ²
Ground-nesting (solitary) bees and wasps ⁷	0.30 fl. oz. per 1000 ft ²

Do not apply more than 0.23 lb of ai/A.

To maximize efficacy against sub-surface pests, apply this product with a non-ionic or silicone-based surfactant (0.25% v/v) in sufficient water to ensure good penetration of spray to soil-thatch matrix. Irrigate treated areas with 0.25 to 0.5 inches of water immediately afterwards paying special attention so that run-off or puddling does not occur. Consult your local extension agent for specific control recommendations for your area.

¹Time applications to control adult weevils with their earliest spring activity. This generally begins when Forsythia is in full bloom and concludes when flowering dogwood (*Cornus florida*) is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.

²Delay watering or mowing for 24 hours after application to ensure optimum control of armyworms, cutworms and sod worms.

³Treatments can 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.

⁴For control of overwintered mole crickets, apply the lower rate in early spring. For the control of adult mole crickets in late summer or early fall, apply the higher rate. To enhance control a non-ionic surfactant or a silicone-based surfactant (0.25% v/v) may be applied as a tank mix for the control of late summer or fall adult mole crickets. Water treated areas with 0.25 to 0.5 inches of water immediately following application taking special care to prevent run-off or puddling.

⁵This application rate is for foraging ants. See the Pest Control on Outside Surfaces and Around Buildings section for mound control application instruction.

⁶Ticks (Including ticks that may transmit Lyme Disease and Rocky Mountain Spotted fever): Do not make spot applications unless applying the product in an area designated only for crack and crevice and spot treatment. Treat the entire area where exposure to ticks may occur. Use higher spray volumes when treating areas with dense ground cover or heavy leaf litter. Ticks may be reintroduced from surrounding areas on host animals. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed activity. Repeat application no more than once per seven days.

Deer ticks (*Ixodes sp.*) have a complicated life cycle that ranges over a two-year period and involves four life stages. Make applications in the late fall and/or early spring to control adult ticks that are usually located on brush or grass above the soil surface and 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. Make applications as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

⁷Ground nesting (solitary) bees and wasps (including Bumble Bees, Sweat Bees, Mining Bees, Digger Bees, Leafcutting Bees, Digger or Treadwaisted Wasps) are helpful biocontrol agents and valuable pollinators. They should be ignored if possible. If control is necessary, however, nest entrances must first be located. Watch the insects during the day when they are active. Groups of single nests occur in bare soil, grassy/weedy areas, or cavities of shrubs, stems, twigs, or logs. Treatment of tunnels and the surrounding area at dusk or after dark improves product contact to individual in-ground nest dwellers. Apply the product to individual nests using 0.07 fl oz of product per gallon of water in and around each cavity. Cover the entrance hole with soil after application. For preventative treatment, broadcast spray in enough finished volume of water to penetrate the groundcover so that 0.30 fl. oz. is applied per 1000 square feet.

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 this product if there are signs of renewed insect activity, but not sooner than two weeks after the first application.

DO NOT apply more than 14.7 fl. oz. of this product (0.23 lb a.i.) per acre.

DO NOT apply when wind conditions favor downwind drift to nearby water bodies.

DO NOT apply when wind velocity exceeds 10 miles per hour.

Avoid application when wind gusts approach 10 mph.

Apply using nozzles that provide the largest droplet size compatible with adequate coverage.

Ornamental Plants and Trees (Foliar Application): Dilute 0.26 to 1.28 fl. oz. of this product per 10 gallons of water and apply at the rate of 10 gallons per 4,356 square feet (2.3 gal per 1000 square feet). One gallon of finish spray will treat 435 sq. ft. If a higher volume application is needed to sufficiently cover the plant canopy, this product can be diluted in large volumes of water and applied through low volume equipment as long as the maximum label rate (1.28 fluid ounces per 4,356 square feet) is not exceeded.

Pests	Product Application Rate		Comments
	Lb ai/ 10 Gallons	Fl Oz ai/ 10 Gallons	
Ants* Aphids Bagworms Black Vine Weevil (Adults) Brown Soft Scales Broad Mites Budworms California Red Scale (crawlers) Centipedes* Clover Mites Crickets Cutworms Douglas-fir Needle Midge Earwigs Elm Leaf Beetles Fall Webworms Flea Beetles Fungus Gnats (adults) Glassywinged Sharp Shooter	0.004 – 0.02	0.26 – 1.28	Apply the labeled rate as a full coverage foliar spray. As foliage and pest pressure increases, repeat application as needed using higher labeled rates specified in this table. Repeat application no more than once per seven days. Bagworm Control: Treat when larvae start to hatch. Spray larvae directly. Applications will be most successful if they are made when the larvae are young. Spray at the time of bud break to control Douglas-fir needle midge. Scale Crawler and Twig Borer Control: Treat trunks, stems, and

Grasshoppers Gypsy Moth Caterpillars Lace Bugs Leafhoppers Leaf feeding Caterpillars Mealybugs Millipedes Mole Crickets* Mosquitos* Nantucket Pinetip Moth Orchid Weevils Pillbugs Pine Sawflies Pine Needle Scales (crawlers) Plant Bugs (incl. Lygus spp) Psyllids San Jose Scales (crawlers) Scale Scorpions* Sowbugs Spiders* Spittlebugs Tent Caterpillars Tip Moths Weevils Whiteflies			twigs along with plant foliage. Best results are achieved when thorough spray coverage is achieved at the beginning of crawler activity. Before treating an entire planting, treat a small amount of plants and observe for one week since certain cultivars may be sensitive to the final spray solution. To prevent or postpone pest resistance to this product, use an alternate class of chemistry. To achieve complete coverage, make sure enough water is used. Normal use rates are 10 gallons of spray per 4,356 sq. ft. (1/10 acre). Black Vine Weevil and Fungus Gnat Larvae Control: Apply as a drench at the rate of approximately 8 oz. of finished spray per 6 inch pot.
Citrus Thrips Beet Armyworm Diaprepes (larvae, adult) European Red Mite Leafrollers Spider Mites Thrips Treehoppers Twig Borers Zimmerman Pine Moth	0.006 – 0.02	0.38 – 1.28	*Overwintered Mole Cricket Control: Early Spring-use the lower rate Late Summer or early Fall-use the higher rate.
Black vine Weevil (larvae) Fungus Gnats (adults & larvae) Imported Fire Ant Foragers Japanese Beetles (adult) Leafminers Pecan Leaf Scorch Mite Black Vine Weevil (larvae) Fungus Gnats (larvae)	0.01 – 0.02	0.64 – 1.28	

* Use higher labeled rate only.

Pest Control on Outside Surfaces and Around Buildings

Follow Additional Application Restrictions for Residential Outdoor Surface and Space Sprays under DIRECTIONS FOR USE.

Applications to vertical exterior surfaces (e.g., foundations) are permitted to a maximum height of 2 feet from ground level. Sections of vertical exterior surfaces that abut non-porous horizontal surfaces can only be treated if either 1) these sections are protected from rainfall and spray from sprinklers or 2) they do not drain into a sewer, storm drain, or curbside gutter (e.g., not to sections that abut driveways or sidewalks that drain into streets).

Use Sites	Pests	Dilution	Comments
Outdoor siding	Ants (Carpenter Ants)	For a 0.03% dilution	Apply this product as a

Foundations Porches* Window frames* Overhang and eaves* Patios* Garages Garbage sites Soil Trunks of woody ornamentals Lawns next to: Private houses Duplexes Townhomes Condos Trailers Apartments Carports Garages Fence rows Utility sheds Barns Residential and noncommercial structures Areas where pests gather or have been seen	and Fire Ants) Armyworms Bees Chiggers Chinch Bugs Clover Mites Crickets Cutworms Dichondra Flea Beetles Earwigs European Crane Flies Fleas Grasshoppers Millipedes Mosquitoes Moths Scorpions Sod Webworms Sowbugs (Pillbugs) Spiders (Black Widow Spiders) Springtails Stink Bugs Ticks (Brown Dog Ticks) Wasps	mix 1/6 fl. oz. / 1 gal. water (1 fluid oz. = 2 tablespoons) For a 0.06% dilution mix 1/3 fl. oz. / 1 gal. water (1 fluid oz. = 2 tablespoons)	residual spray using a 0.03 to 0.06% dilution. DO NOT use household utensils to measure this product. For heavy pest infestation, quicker knockdown or longer residual control use the higher dilution. To sustain effectiveness, repeat treatment as needed. Repeat application not more than once per seven days.
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* Spot and crack-and-crevice treatment only.

Perimeter Treatment: Apply to a 7-foot-wide band of soil and vegetation around and next to the structure and treat the foundation of the structure to a height of 2feet. Use a spray volume of 2 to 10 gals, of dilution per 1000 sq. ft. If foliage is thick or there is mulch or leaf litter nearby, higher volumes of water may be necessary. If certain pests such as Gypsy Moth adults and caterpillars, Boxelder Bugs, Elm Leaf Beetles, Earwigs or Silverfish are nearby, apply to house siding (at a height of more than 2 feet).

For sections of foundation that abut non-porous horizontal surfaces, the treated areas must be protected from rainfall and spray from sprinklers or they do not drain into a sewer, storm drain, or curbside gutter (e.g. not to sections that abut driveways or sidewalks that drain into streets.)

For Optimal Control of Ant and Fire Ant Mounds use this product 0.06% dilution as Drench Method: Sprinkle the mound, using 1-2 gallons of dilution, until it is wet and apply to a 4-foot diameter circle around the mound. When treating mounds larger than 12", use the higher volume. Do not treat in the heat of the day and for optimum results, apply in cool weather, such as in early morning or late evening hours.

Application to Home Lawns: Apply this product as a broadcast treatment in 2 to 10 gallons of carrier per 1000 sq. ft. When treating thick grass foliage, use higher volumes to get complete, uniform coverage.

Attention: Keep children and pets off treated areas following application until the spray has dried.

TRUNK SPRAYS TO ORNAMENTAL TREES (including Christmas trees (WPS))

Control of bark beetles and boring beetles:

Apply the product according to the table below. Application rates and application timing differ according to the target pest and other factors particular to each local situation. Consult your local State Extension specialist or other qualified expert for specific recommendations within the table below. Do not apply more than 0.2 lbs. ai (12.8 fl. oz.) of this product to trees per acre. If reinfestation is probable it may be necessary to repeat treatment.

Pests	Rate for Preventive Control	Spray Volume	Specific Instructions
<i>Dendroctonus</i> bark beetles mountain pine beetle, southern pine beetle, western pine beetle and black turpentine beetle	16 – 32 fl oz per 100 gallons (0.25 – 0.5 lb ai per 100 gallons)	1 – 4 gallons of finished spray per tree	Make applications to the trunk of the tree with a hydraulic sprayer in the early spring or prior to adult beetle flight and tree infestation. Apply spray directly to the main trunk from the base of the tree to at least half-way into the live crown. Spray until the bark is thoroughly wetted by the spray.
Engraver beetles (<i>Ips. spp.</i>)		10 – 14 gallons of finished spray per tree	
Other bark beetles ambrosia beetles, elm bark beetles and metallic wood borers such as emerald ash borer		2 – 6 gallons of finished spray per tree	
Clearwing Moth borers Ash borer, banded ash clearwing, Dogwood borer, Lesser peachtree borer, Lilac borer, Oak borer, peachtree borer, rhododendron borer	6.4 – 12.8 fl oz per 100 gallons (0.1 – 0.2 lb ai per 100 gallons)	1 – 4 gallons of finished spray per tree	Apply to the branches and trunks prior to adult emergence. Spray until the bark is thoroughly wetted by the spray. For maximum residual control, use highest labeled rate.
Coleopteran borers Bronze birch borer, Flatheaded Appletree borer			

Treatment of infested trees to control emerging brood: Make applications of a spray mixture containing 2.0 pints of this product per 100 gallons of water to trees that still have beetles in the bark. Apply spray directly to the main trunk from the base of the tree to at least halfway into the live crown. Spray until the bark is thoroughly wetted by the spray (usually 1 to 4 gallons of spray per tree). Trees on which 50% or more of the foliage is brown or non-development generally have been vacated and should not be sprayed unless infestation is confirmed. To confirm an infestation, scrape off the outer bark to determine if trees are still infested. If live infestations remain in the trunks, fell the trees and cut into sections. Spray the trunk and large limbs and turn sections so that all of the surface area can be treated. Do not apply more than 0.2 lbs. ai (12.8 fl. oz.) of this product to trees per acre.

FOLIAR SPRAYS TO ORNAMENTALS AND TREES

(Field and Container Grown Nursery Stock, Christmas Trees, Interiorscapes and Plantscapes,

Lawns, Trees and Shrubs, and on Golf Courses and Sod Farms)

For applications to ornamentals (trees, shrubs, grown covers, bedding plants, and foliage plants, conifers (field and container grown), Christmas trees and pine seed orchards apply 0.04 to 0.32 fluid oz. of this product per 1,000 square feet or 1.18 to 14.4 fl oz per 100 gallons. This product may be diluted and applied in various volumes of water providing that the maximum label rate (0.32 fl oz per 1000 square feet or 14.4 fl oz per 100 gallons) is not exceeded. This product may be applied through low volume application equipment by dilution with water or other carriers and providing that the maximum label rate (0.32 fl oz per 1,000 square feet or 14.4 fl oz per 100 gallons) is not exceeded.

Apply the labeled application rate as a full coverage foliar spray. Repeat treatment as necessary to achieve control using higher application rates as pest pressure & foliage area increases. Do not apply more often than once per seven days. Certain cultivars may be sensitive to the final spray solution. A small number of plants should be treated and observed for one week prior to application to the entire planting. Periodically use an alternate class of chemistry in a treatment program to prevent or delay pest resistance.

RESTRICTIONS:

- Do not apply more than 0.1 lb active ingredient (6.4 fl oz product) per acre per application.
- Do not make more than 2 foliar applications of bifenthrin (all products) per season.
- Do not make applications less than 21 days apart.

Calculating Dilution Rates using the Ornamental Application Rates Table and the Product Ornamental Dilution Chart: The following steps should be taken to determine the appropriate dilution of this product that is required to control specific pests:

1. Identify the least susceptible target pest (the pest requiring the highest application rate for control).
2. Select an application rate in terms of fluid oz of this product.
3. Identify your application volume and how much spray mix you want to prepare.
4. Use the Ornamental Dilution Chart to determine the appropriate volume of water.

For example, suppose you are trying to control black vine weevil adults on rhododendron. The Ornamental Application Rates table show that 0.08 to 0.16 fluid oz. of this product should be applied per 1,000 square feet. You select an application rate of 0.16 fluid oz. per 1,000 square feet because maximum residual control is desired. Your application volume is approximately 300 gallons per acre, which is equivalent to 6.9 gallons per 1,000 square feet. Consulting the Ornamental Dilution Chart reveals that you should dilute 0.24 fluid oz. of this product in 10 gallons of water.

Ornamental Dilution Chart							
Application Rate	Fluid Ounces (mL) of product diluted to the Volumes of Finished Spray						
	1 Gallon		5 Gallons		10 Gallons		100 Gallons
fl. oz./ 1000 ft²	fl. oz.	mL	fl. oz.	mL	fl. oz.	mL	fl. oz.
0.04	0.018	0.5	0.09	2.6	0.18	5.3	1.8
0.08	0.036	1.1	0.18	5.3	0.36	10.6	3.6
0.16	0.072	2.1	0.36	10.6	0.72	1.3	7.2
0.32	0.144	4.3	0.72	21.3	1.44	42.6	14.4

$$\frac{(23.4)(\text{fl. oz. of product added to tank})}{(\text{Gallons of finished spray mix})(128)} = \text{Percent Active Ingredient of spray mix}$$

Ornamental and Tree Foliar 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, this product may be applied up to 0.32 fluid oz. per 1,000 square feet (14.4 fl. oz. per 100 gallons) to control each of the pests listed in this table.

The higher labeled application rates should be used when maximum residual control is desired.

Pests	Product Application Rate	
	Fluid ounces per 1,000 square ft	Fluid Ounces per 100 gallons
Bagworms ¹ Cutworms Elm Leaf Beetles Gypsy Moth Caterpillars Lace bugs Leaf Feeding Caterpillars Tent Caterpillars Tussock moth	0.04 – 0.08	1.8 – 3.6
Adelgids [†] Ants Aphids Beet Armyworm Beetles ^{†,2} Black Vine Weevil (Adults) Scales Brown Soft Scales California Red Scale (Crawlers) ² Crypomeria Scale Elongated Hemlock Scale Pine Needle Scales (Crawlers) ² San Jose Scales (Crawlers) ² Broad Mites Budworms Cicadas [†] Citrus Thrips Clover Mites Crickets Douglas-fir needle midge ² Earwigs European Red Mite Flea Beetles Fungus Gnats Glassywinged Sharpshooter Grass hoppers Japanese Beetle (Adult) [†] Leafhoppers Leafrollers Mealybugs Mites Mosquitoes Nantucket pine tip moth Pillbugs Pine sawflies Plant Bugs (including Lygus spp.) Psyllids [†] Scorpions Spider Mites ³ Spikers Spittlebugs [†] Thrips Tip Moths Treehoppers [†]	0.08 – 0.16	3.6 – 7.2

Twig Borers Weevils ² , such as White Pine Beetle Pales Weevil Diaprepes adults Orchid Weevil Whiteflies Zimmerman pine moths		
Imported Fire Ants** Leafminers Pecan Leaf Scorch Mite Pine Shoot Beetle (Adults) Spider Mites ³ Stink Bugs	0.16 – 0.32	7.2 – 14.4

¹Bagworms: For best results, apply when larvae begin to hatch and spray larvae directly. Applications when larvae are young will be most effective.

^{2,†}Beetles, Needle Midge, Scale Crawlers, Twig Borers, and Weevils: May treat trunks, stems and twigs in addition to plant foliage. For scales, best results are achieved when thorough spray coverage is achieved at the beginning of crawler activity. Effective white pine weevil treatment only requires spot-treatment of the leader, from the tip to the top whorl of branches. Effective management of pales weevil may be achieved by spot-treating stumps before forsythia bloom; **DO NOT** add oil to this spray. Spray at the time of bud break to control Douglas-fir needle midge.

³Spider Mites: This product provides optimal twospotted spider mite control when applied during spring to mid-summer. Higher labeled application rates and/or more frequent treatments may be required for acceptable twospotted spider mite control during mid- to late-summer. The addition of a surfactant or horticultural oil may increase the effectiveness of this product. Combinations of this product with other registered miticides have also proven effective. Alternate applications of this product may be rotated with those of other products that have different modes of action in control programs that are designed to manage resistance by twospotted spider mites. Consult your local Cooperative Extension Service for resistance management recommendations in your region.

**For foraging ants.

†Not for use in California

BROADCAST SPRAYS TO TURFGRASS (lawns, golf courses, sod farms, parks)

Apply this product as a broadcast treatment. Use higher volumes up to 10 gallons of carrier per 1000 square feet to get uniform coverage when treating dense grass foliage.

For low water volume usage, less than 2 gallons/1000 square feet, addition of a non-ionic or silicone-based surfactant (0.25% v/v) is recommended. Irrigation to treated area within a few hours following application can improve efficacy to sub-surface pests such as, but not limited to, mole crickets.

Turfgrass 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, this product may be applied at up to 0.32 fl. oz. per 1000 square feet to control each of the pests listed in this table. The higher labeled application rates should be used when maximum residual control is desired or heavy pest populations occur.

Pests	Product Application Rate
Armyworms ⁴ Cutworms ⁴ Sod Webworms ⁴	0.05 – 0.08 fl. oz. per 1000 ft ²
Annual Bluegrass Weevil ² (Listronotus, formerly Hyperodes) (Adult) Banks Grass Mite ⁹ Billbugs (Adult) ⁶ Black Turfgrass Ataenium (Adult) ⁷ Crane Flies ³ Crickets Earwigs Fleas (Adults) Grasshoppers Mealybugs Mites ⁹	0.08 – 0.16 fl. oz. per 1000 ft ²
Ants Chinch Bugs ¹⁰ Fleas (Larvae) ¹¹ Imported Fire Ants ¹² Japanese Beetles (adult) Mole Cricket (Adult) ¹³ Mole Cricket (Nymph) ¹⁴ Stink Bugs Ticks ¹⁵	0.16 – 0.32 fl. oz. per 1000 ft ²
Ground-nesting (solitary) bees and wasps ¹⁶	0.30 fl. oz. per 1000 ft ²

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 this product if there are signs of renewed insect activity, but not sooner than two weeks after the first application.

DO NOT apply more than 14.7 fl. oz. of this product (0.23 lb a.i.) per acre.

⁴Armyworms, Cutworms and Sod Webworms: To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher labeled application rates (up to 0.32 fl. oz. per 1000 square feet) may be required during periods of high pressure.

⁵Annual Bluegrass Weevils (Hyperodes) adults: Time applications 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 concludes when dogwood (Cornus florida) is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.

⁶Billbug adults: Make applications 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 more information specific to your region. In temperate regions, spring applications targeting billbug adults will also provide control of over-wintered chinch bugs.

⁷Black Turfgrass Ataenium adults: Make applications during May and July to control the first and second generation of black turfgrass ataenium adults, respectively. Time the May application to coincide with the full bloom state of Vanhoutte spiraea (Spiraea vanhouttei) and horse chestnut (Aesculus hippocastanum). Time the July application to coincide with the blooming of Rose of Sharon (Hibiscus

syriacus).

⁸Crane Flies: Make treatments 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.

⁹Mites: To ensure optimum control of eriophyd mites, apply in combination with the labeled application rate of a surfactant. A second application, five to seven days after the first, may be necessary to achieve acceptable control.

¹⁰Chinch Bugs: Chinch bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration of the insecticide to the area where the chinch bugs are located. Use higher volume applications if the thatch layer is excessive or if a relative long mowing height is being maintained. Chinch Bugs can be one of the most difficult pests to control in grasses and the higher applications rates (up to 0.32 fl. oz. per 1000 square feet) may be required to control populations that contain both nymphs and adults during the middle of the summer.

¹¹Flea larvae: Flea larvae develop in the soil of shaded areas that are accessible to pets or other animals. Use a higher volume application when treating these areas to ensure penetration of the insecticide into the soil. Note: if the lawn area is being treated with this product at 0.08 fl. oz. per 1000 square feet for adult flea control, then the larval application rate may be achieved by increasing the application volume two- to four-fold.

¹²Imported Fire Ants: Control will be optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound drenches that will control existing colonies. If the soil is not moist, then it is important to irrigate before application or use a high-volume application. Broadcast treatments must apply 0.1 to 0.2 lbs ai/A (0.16 to 0.32 fl. oz. per 1000 sq. ft.). Use enough finished volume to penetrate thatch or sod. Treat mounds by applying 0.32 oz of this product per mound in 1 to 2 gallons of water by sprinkling the mound until it is wet and treat 3 feet out around the mound. Use the higher volume for mounds larger than 12". Treat mounds with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. For best results, apply in cool weather (65 – 80°F) or in early morning or late evening hours. See next section for quarantine use directions.

¹³Mole 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. Apply as late in the day as possible and water 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. Treat grass areas that receive pressure from adult mole crickets at peak egg hatch to ensure optimum control of subsequent umph populations (see below).

¹⁴Mole Cricket nymphs: Treat grass areas that received intense adult mole cricket pressure in the spring 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. Apply as late in the day as possible and water 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.

¹⁵Ticks (Including ticks that may transmit Lyme Disease and Rocky Mountain Spotted fever): Do not make spot applications unless applying the product in an area designated only for crack and crevice and spot treatments. Treat the entire area where exposure to ticks may occur. Use higher spray volumes when treating areas with dense ground cover or heavy leaf litter. Ticks may be reintroduced from

surrounding areas on host animals. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed activity. Repeat application should be limited to no more than once per seven days.

Deer ticks (*Ixodes* sp.) have a complicated life cycle that ranges over a two-year period and involves four life stages. Make applications in the late fall and/or early spring to control adult ticks that are usually located on brush or grass above the soil surface and 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. Make applications as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

¹⁶Ground nesting (solitary) bees and wasps (including Bumble Bees, Sweat Bees, Mining Bees, Digger Bees, Leafcutting Bees, Digger or Treadwaisted Wasps) are helpful biocontrol agents and valuable pollinators. They should be ignored if possible. If control is necessary, however, nest entrances must first be located. Watch the insects during the day when they are active. Groups of single nests occur in bare soil, grassy/weedy areas, or cavities of shrubs, stems, twigs, or logs. Treatment of tunnels and the surrounding area at dusk or after dark improves product contact to individual in-ground nest dwellers. Apply individual nest drenches using 0.07 fl. oz. per gallon of water in and around each cavity. Cover the entrance hole with soil after application. For preventative treatment, broadcast spray in enough finished volume of water to penetrate the groundcover so that 0.30 fl. oz. is applied per 1000 square feet.

Lawn Dilution Chart								
Application Rate		Fluid Ounces (mL) of product diluted to the Volumes of Finished Spray						
		1 Gallon		5 Gallons		10 Gallons		100 Gallons
Gallons/ 1000 ft²	fl. oz./ 1000 ft²	fl. oz.	mL	fl. oz.	mL	fl. oz.	mL	fl. oz.
1	0.05	0.05	1.48	0.25	7.39	0.50	14.8	5.00
	0.08	0.08	2.37	0.40	11.83	0.80	23.7	8.00
	0.16	0.16	4.73	0.80	23.66	1.60	47.3	16.00
	0.32	0.32	9.46	1.60	47.32	3.20	94.6	32.00
2	0.05	0.025	0.74	0.13	3.70	0.25	7.4	2.50
	0.08	0.040	1.18	0.20	5.91	0.40	11.8	4.00
	0.16	0.080	2.37	0.40	11.83	0.8	23.7	8.00
	0.32	0.160	4.73	0.80	23.66	1.60	47.3	16.00
3	0.05	0.017	0.49	0.08	2.46	0.17	4.9	1.67
	0.08	0.027	0.79	0.13	3.94	0.27	7.9	2.67
	0.16	0.053	1.58	0.27	7.89	0.53	15.8	5.33
	0.32	0.107	3.15	0.53	15.77	1.07	31.5	10.67
4	0.05	0.013	0.37	0.06	1.85	0.13	3.7	1.25
	0.08	0.020	0.59	0.10	2.96	0.20	5.9	2.00
	0.16	0.040	1.18	0.20	5.91	0.40	11.8	4.00
	0.32	0.080	2.37	0.40	11.83	0.80	23.7	8.00
5	0.05	0.010	0.30	0.05	1.48	0.10	3.0	1.00
	0.08	0.016	0.47	0.08	2.37	0.16	4.7	1.60
	0.16	0.032	0.95	0.16	4.73	0.32	9.5	3.20
	0.32	0.064	1.89	0.32	9.46	0.64	18.9	6.40
10	0.05	0.005	0.15	0.03	0.74	0.05	1.5	0.50
	0.08	0.008	0.24	0.04	1.18	0.08	2.4	0.80
	0.16	0.016	0.47	0.08	2.37	0.16	4.7	1.60
	0.32	0.032	0.95	0.16	4.73	0.32	9.5	3.20

Spray Drift Precautions (For turf & ornamental uses)

DO NOT apply when wind conditions favor downward drift to nearby water bodies.

DO NOT apply when wind velocity exceeds 10 miles per hour.

Avoid application when wind gusts approach 10 mph.

Apply using nozzles that provide the largest droplet size compatible with adequate coverage.

IMPORTED FIRE ANT QUARANTINE TREATMENT

This product is approved for use in accordance with the USDA Imported Fire Ant Quarantine Program. This product may be applied by soil incorporation or as a topical applications, or high volume drench application for control of Imported Fire Ants (IFA) in potting media (balled and containerized nursery grown ornamental trees, shrubs, plants, flowers, conifers, bushes, Christmas trees, and non-bearing fruit and nut-trees), or as a broadcast application on grass sod.

Soil Incorporation: Incorporate the appropriate volume of this product (see table below) per cubic yard of potting media by diluting it in water and sprinkling or spraying it onto the media. When used in accordance with USDA guidelines, this application will provide a 6-month certification period.

Soil Incorporation Rate for Control of IFA in Potting Media

Potting Media Bulk Density (lbs. cubic yard)	Product Application Rate Fl. oz. per cubic yard
200	0.6
400	1.3
600	2.0
800	2.6
1000	3.2
1200	3.9
1400	4.5

Use proportional amounts of this product for potting media with bulk densities not listed.

Topical Application: Mix this product in 1000 ounces of water based on container size and bulk density of the potting media (see table below). Apply one (1) ounce of the mix to each container evenly distributed over the surface of the potting media. Irrigate all treated containers with 1.5 inches of water following application. When used in accordance with USDA guidelines, this application will provide a 6-month certification period.

Topical Drench Application Rate for Control of IFA in Potting Media

Potting Media Bulk Density (lbs. cubic yard)	Product Application Rate Fl. oz. per 1000 ounces of water	
	3 Qt. Container	4 Qt. Container
200	1.2	1.8
400	2.4	3.5
600	3.7	5.2
800	4.9	7.0
1000	6.1	8.8
1200	7.3	10.5
1400	8.5	12.3

Use proportional amounts of this product for potting media with bulk densities not listed.

High-Volume Drench: Apply this product as a high-volume drench by mixing the appropriate amount of product based on the bulk density in 100 gallons of water (see table below). Apply mix to individual containers to the point of saturation. The amount of mix used for each plant is generally 1/5 volume of the container. When used in accordance with USDA guidelines, this application will provide a 6-month certification period.

High Drench Application Rate for Control of IFA in Potting Media

Potting Media Bulk Density (lbs. cubic yard)	Product Application Rate Fl. oz. per 100 Gallons
200	0.8
400	1.5
600	2.4
800	3.2
1000	4.0
1200	4.9
1400	5.7

Use proportional amounts of this product for potting media with bulk densities not listed.

Soil Dip Treatment for Containerized Balled and Burlapped Nursery Stock: See next section.

For treatment of grass sod, apply this product as a broadcast treatment. Use higher volume up to 10 gallons of carrier per 1000 square feet to get uniform coverage when treating dense grass foliage. Make two applications of 0.32 fl. oz. per 1000 sq. ft. (0.2 lbs. AI per acre) seven days apart. This application will provide control within four weeks followed by 16 weeks of certification.

Larval Control in Potting Media of Containerized Plants

Black Vine Weevil Larva and White Grub Preventative Treatment – Topical Drench: For preventing black vine weevil larvae and white grubs in containerized plants, dilute this product at the rate of 3.6 to 14.4 fl. oz. (0.05 to 0.2 lbs. AI) per 100 gallons and apply as a drench at the rate of 4 to 8 fluid ounces of finished spray per 6-inch (diameter) container. Use a proportional volume of finished spray for containers less than or greater than 6 inches in diameter. Treat the media to the point of saturation, which generally requires 1/5 the volume of the container. The higher dosage is suggested for high bulk density media. More than one year of benefit is obtained with the preventative treatment. To prevent black vine weevil, treat the entire root volume, even of rooted cuttings in plugs. Therefore, a topical drench is advised prior to moving plants into preplant treated mix in larger containers.

Black Vine Weevil and White Grub Larval Control – Preventative Treatment – Media Incorporation: For preventative control of black vine weevil and white grub larvae in containerized plants, incorporate the appropriate volume of this product (see table below) per cubic yard of potting media by diluting it in water (typically 1 quart to 1 gallon per cubic yard of media) and sprinkling or spraying it onto media while mixing. Use higher application rates for longer periods of control.

Potting Media Bulk Density (lbs. cubic yard)	Product Application Rate Fl. oz. per cubic yard			
	10 ppm	15 ppm	20 ppm	25 ppm
200	0.14	0.20	0.28	0.34
300	0.20	0.30	0.40	0.51
400	0.28	0.42	0.56	0.68
500	0.34	0.51	0.68	0.84
600	0.40	0.61	0.80	1.01
700	0.46	0.69	0.92	1.18

800	0.54	0.81	1.08	1.35
900	0.61	0.91	1.22	1.52
1000	0.68	1.01	1.36	1.69

The application rates listed above are based on the dry bulk density of the potting media. Use proportional volumes of this product for potting media with dry bulk densities that are not listed above.

Black Vine Weevil Larval Control – Curative Treatment – Topical Drench: To control black vine weevil larvae infesting containerized plants, dilute this product at the rate of 3.6 to 14.4 fl. oz. (0.05 to 0.2 lbs. AI) per 100 gallons and apply as a drench at the rate of 8 to 16 fluid ounces of finished spray per 6-inch (diameter) container. Use a proportional volume of finished spray for containers less than or greater than 6 inches in diameter. Treat the media to the point of saturation, which generally requires 1/5 the volume of the container.

Bare-root Treatment for Preventing Root Weevil and White Grub Larval Feeding: To protect treated roots of field grown nursery stock and Christmas trees from feeding by root weevil and white grub larvae, dilute 30 fl. oz. of this product in 100 gallons of water and treat the bare roots of the plants that are being transplanted into the field either by dipping the roots into the insecticide solution or by spraying the insecticide solution onto the roots.

Diaprepes Weevil Larval Control – Curative Treatment – Topical Drench: To control Diaprepes weevil larvae infesting containerized plants, dilute this product at the rate of 3.6 to 14.4 fl. oz. (0.05 to 0.2 lbs. AI) per 100 gallons and apply as a drench at the rate of 8 to 16 fluid ounces of finished spray per 6-inch (diameter) container. Use a proportional volume of finished spray for containers less than or greater than 6 inches in diameter. Treat the media to the point of saturation, which generally requires 1/5 the volume of the container.

Fungus Gnat Larval Control – Preventative Treatment – Topical Drench: For preventative control of fungus gnat larvae in containerized plants, dilute this product at the rate of 7.2 to 14.4 fl. oz. (0.1 to 0.2 lbs. AI) per 100 gallons and apply as a drench at the rate of 4 to 8 fluid ounces of finished spray per 6-inch (diameter) container. Use a proportional volume of finished spray for containers less than or greater than 6 inches in diameter. Treat the media to the point of saturation, which generally requires 1/5 the volume of the container. Use the higher application rate for a longer period of control.

Fungus Gnat Larval Control – Curative Treatment – Topical Drench: To control fungus gnat larvae infesting containerized plants, dilute this product at the rate of 3.6 to 14.4 fl. oz. (0.05 to 0.2 lbs. AI) per 100 gallons and apply as a drench at the rate of 8 to 16 fluid ounces of finished spray per 6-inch (diameter) container. Use a proportional volume of finished spray for containers less than or greater than 6 inches in diameter. Treat the media to the point of saturation, which generally requires 1/5 the volume of the container.

Imported Fire Ant and Japanese Beetle Quarantine Treatment for Ornamentals (Soil Dip Treatment of Containerized or Balled and Burlapped Nursery Stock)

Use this product to treat containerized (potted) or balled and burlapped nursery stock to control soil insects.

Ornamentals (Soil Treatment of Containerized or Balled and Burlapped Nursery Stock)

Pest	Product Application Rate Fl. oz. per 100 Gallons
Fire ants ¹	7.5
Japanese beetle grubs ²	7.5 – 22

¹For Federal Imported Fire Ant Quarantine, plants must be retreated if not sold within 180 days.

²Refer to U.S. Domestic Japanese Beetle Harmonization Plan (Dip Treatment – B&B and Container Plants) (<http://www.nationalplantboard.org/japanese-beetle-harmonization-plan/>) for the appropriate treatment rate as well as additional dip treatment restrictions on plant size, immersion duration, soil temperature, soil type, and soil moisture. Make treatment between September 15 and May 1.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not freeze. Do not store below 40° F. If crystals are observed, warm material to above 60° F by placing container in warm location. Shake or roll container periodically to redissolve solids. 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, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. 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, dike surrounding area or absorb with sand, cat litter or commercial clay. Place damaged package in a holding container. Identify contents.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Do not pour or dispose down-the-drain or sewer. Call your local solid waste agency for local disposal options. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Metal or Plastic Container - Non-refillable container (in sizes 5 gallons or less): Do not reuse or refill this container. Triple rinse as follows: Empty the contents into application equipment or a mix tank and drain for 10 seconds after flow begins to drip. Fill container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill.

Non-refillable container (in sizes greater than 5 gallons) - Do not reuse or refill this container. Triple rinse or pressure rinse. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Turn the container over onto its other end and tip back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Returnable/Refillable Containers: Refill this container with pesticide only. Do not reuse this container for any other purpose. Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

DO NOT USE CONTAINERS FOR THE STORAGE OF FOOD, FEED, OR DRINKING WATER!

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, presence of other materials or other influencing factors in the use of this product, which are beyond the control of ALBAUGH, LLC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold ALBAUGH, LLC and Seller harmless for any claims relating to such factors.

ALBAUGH, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent consistent with applicable law, this warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or ALBAUGH, LLC and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ALBAUGH, LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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LABEL HISTORY

(Not included in final printed label)

File Name	Version Mark	Comment
042750-00xxx.20200930.DRAFT	093020	Initial Registrations revisions for EPA
042750-GOU.20211110.DRAFT	111021	(e) Label Revisions
042750-GOU.20211115.DRAFT	111521	(e) Label Revisions
042750-394.20211115.MASTER	AD111521	EPA SAL
<u>042750-394.20220714.DRAFT</u>	<u>071422</u>	<u>Label Notification (ME request)</u>