

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.

MENACE[®] GC 7.9% FLOWABLE INSECTICIDE

For use to control listed insect and mite pests in greenhouses and nurseries, as well as on golf courses and on ornamental and turf in landscaped areas around residential, institutional, public, commercial and industrial buildings, parks, recreational areas, golf courses, sod farms and athletic fields.

ACTIVE INGREDIENT:

Bifenthrin* 7.9%

OTHER INGREDIENTS: 92.1%

TOTAL 100.0%

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

This product contains 2/3 pound active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCION

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

SEE INSIDE BOOKLET FOR ADDITIONAL
PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or
Exposure, Call CHEMTREC
(800) 424-9300

For Medical Emergencies Only,
Call (877) 325-1840

EPA Reg. No. 228-458

Manufactured for
Nufarm Americas Inc.
11901 S. Austin Avenue
Alsip, IL 60803



**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION / PRECAUCION**

Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with skin, eyes or clothing. Avoid breathing dust (vapor or spray mist). Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. For more options, follow the instructions for category C on an EPA chemical resistance category selection chart.

Applicators and other handlers (other than mixers and loaders) must wear:

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride or viton.
- Shoes plus socks.

Mixers and loaders must wear:

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride or viton.
- Shoes plus socks.
- Protective eyewear.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

After the product is diluted in accordance with label directions for use, shirt, pants, socks, shoes and waterproof gloves are sufficient.

USER SAFETY RECOMMENDATIONS

Users Should:

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

FIRST AID

IF SWALLOWED	<ul style="list-style-type: none"> • 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 the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
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 ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.

HOT LINE 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 1-877-325-1840 for emergency medical treatment information.

NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils or alcohol may increase absorption and should be avoided.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and aquatic invertebrates. 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. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. **DO NOT** apply this product or allow it to drift to blooming crops if bees are visiting the treatment area.

DIRECTIONS FOR USE

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 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 regulation.

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

DO NOT apply this product by air.

Apply with ground equipment only.

DO NOT apply when wind direction favors downwind drift towards nearby water bodies.

DO NOT apply when wind velocity exceeds 10 mph.

Avoid application when wind gusts approach 10 mph.

DO NOT apply when a temperature inversion exists.

Apply using the largest nozzle size compatible with adequate coverage.

DO NOT make applications during rain.

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

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. When treating tall trees (>15 feet) from the ground with high pressure sprays or during any application with air assisted equipment (mist blower) do not apply within 150 feet of aquatic areas.

DO NOT water the treated area to the point of run-off.

Application is prohibited directly into sewers or drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur. DO NOT allow the product to enter any drain during or after application.

AGRICULTURE 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 handlers 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 intervals. 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 such as butyl rubber, neoprene rubber, polyvinyl chloride, viton, or nitrile rubber
- Shoes plus socks

Do not apply this product in a way that it will contact workers or other persons either directly or through drift. Only protected handlers may be in the area during application. For any requirement specific to your State or Tribe, consult State/Tribal agency responsible for pesticide regulation.

FOR CALIFORNIA GREENHOUSE APPLICATORS AND HARVESTERS

Greenhouse Applicators Must Wear:

- Full body chemical-resistant protective suit (Such as barrier laminate, nitrile rubber, butyl rubber, polyvinyl chloride, or equivalent).

Reapplication Interval:

- Reapplications to greenhouses must occur at intervals of 30 Days or Longer.

Greenhouse Harvesters Must Wear:

Regular length gloves plus a long sleeved shirt or elbow-length (gauntlet type) gloves during the 30 days following application.

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 for agricultural pesticides (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 surfaces until the spray has dried.

Use Directions for Tip-N-Measure Container

1. Remove the measuring chamber cap and induction seal. Replace the cap and securely tighten. Tip container until liquid fills measuring chamber.
2. Return container to level position. No adjustment is needed.
3. Remove measuring chamber cap and dispense into proper application equipment.

For multiple dose measuring: Remove fill chamber cap and dispense according to markings on side of bottle.

APPLICATION INSTRUCTIONS

Landscape Ornamentals, Greenhouses, Nurseries, Turf, Sod Farms, Golf Courses and Home Lawn Uses (Including Interiorscapes, Plantscapes, and Ornamental Plantings Grown for Aesthetic Purpose).

This product formulation mixes readily with water and other aqueous carriers, and controls listed insects and mites on ornamentals, trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in greenhouses, outdoor nurseries, and interiorscapes including hotels, shopping malls, office buildings, etc., and, outdoor plantscapes, such as around residential dwellings, parks, institutional, public, commercial and industrial buildings, recreational, athletic fields, home lawns, turf, golf courses and sod farms. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity during the season of application.

This product may be tank-mixed with other products, including insect growth regulators. When tank mixing this product with other products, observe all precautions and limitations on each separate product label. 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. Test any tank mixture which has not been previously tested on a small scale (pint or quart jar), using the proper proportions of chemicals and water to ensure the physical compatibility of the mixture.

Use the following procedure 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.

Maximum Rates: DO NOT apply more than 0.2 pound a.i./Acre (40 fl. oz. of this product) in a single application or per year for outdoor applications.

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 control. 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.

TURF APPLICATION DIRECTIONS

Turf Areas (including golf courses, sod farms*, home lawns, lawn areas around parks, institutional, public, commercial and industrial buildings, recreational and athletic fields).

***NOT FOR USE ON SOD FARMS IN THE STATE OF NEW YORK.**

DO NOT apply to pastures or rangeland.

TURF DILUTION CHART (Lawns, Golf Course And Sod Farms)						
Application Volume: Gallons per 1,000 sq. ft.	Application Rate: Pounds A.I./Acre	Fluid Ounces* of This Product Diluted to these Volumes of Finished Spray				
		1 gallon	10 gallons	25 gallons	50 gallons	100 gallons
0.5	0.05	0.5	5.0	12.5	25.0	50.0
0.5	0.1	1.0	10.0	25.0	50.0	100.0
0.5	0.2	2.0	20.0	50.0	100.0	200.0
0.75	0.05	0.33	3.33	8.33	16.67	33.33
0.75	0.1	0.67	6.67	16.67	33.33	66.67
0.75	0.2	1.33	13.33	33.33	66.67	133.33
1	0.05	0.25	2.5	6.25	12.5	25.0
1	0.1	0.5	5.0	12.5	25.0	50.0
1	0.2	1.0	10.0	25.0	50.0	100.0
1.5	0.05	0.17	1.67	4.17	8.33	16.67
1.5	0.1	0.33	3.33	8.33	16.67	33.33
1.5	0.2	0.67	6.67	16.67	33.33	66.67

(continued)

TURF DILUTION CHART (Lawns, Golf Course And Sod Farms) (continued)						
Application Volume: Gallons per 1,000 sq. ft.	Application Rate: Pounds A.I./Acre	Fluid Ounces* of This Product Diluted to these Volumes of Finished Spray				
		1 gallon	10 gallons	25 gallons	50 gallons	100 gallons
2	0.05	0.13	1.25	3.13	6.25	12.5
2	0.1	0.25	2.5	6.25	12.5	25.0
2	0.2	0.5	5.0	12.5	25.0	50.0
2.3 ^a	0.05	0.11	1.09	2.72	5.43	10.87
2.3 ^a	0.1	0.22	2.17	5.43	10.87	21.74
2.3 ^a	0.2	0.43	4.35	10.87	21.74	43.48
3	0.05	—	0.83	2.09	4.17	8.33
3	0.1	0.17	1.66	4.17	8.33	16.67
3	0.2	0.33	3.33	8.33	16.67	33.33
4	0.05	—	0.63	1.56	3.13	6.25
4	0.1	0.13	1.25	3.13	6.25	12.5
4	0.2	0.25	2.5	6.25	12.5	25.0

* To convert to milliliters, multiply by 29.57.

^a 100 gallons per acre.

1 fluid ounce = 29.57 ml = 2 tablespoons = 6 teaspoons

DO NOT use household utensils to measure this product.

Formula for Determining the Active Ingredient Content of the Finished Spray Mixture: The following formula may be used to determine the percent active ingredient that is in the spray tank after mixing this product.

$$\frac{(7.9)(\text{fluid ounces of this product added to tank})}{(\text{Gallons of finished spray mix})(128)} = \text{Percent active ingredient of spray}$$

TURF APPLICATION RATES

Apply this product as a surface or sub-surface treatment. Use application volumes of up to 10 gallons per 1,000 square feet to get uniform coverage when treating dense and or long grass foliage.

For low volume applications, less than 2 gallons/1,000 square feet, 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.

TURF APPLICATION RATES CHART		
PEST	A.I. LBS. / ACRE	APPLICATION RATE
Armyworms ¹ Cutworms ¹ Sod Webworm ¹	0.05 lbs. a.i. per Acre	0.25 fl. oz. per 1,000 sq. ft - or - 10 fl. oz. per Acre
Annual Bluegrass Weevil (<i>Hyperodes</i>) (Adults) ² Billbugs (Adult) ³ Black Turfgrass Ataenius (Adult) ⁴ Centipedes Chinch Bugs ⁵ Crickets Earwigs	0.05 to 0.1 lbs. a.i. per Acre	0.25 to 0.5 fl. oz. per 1,000 sq. ft - or - 10 to 20 fl. oz. per Acre
Fleas (Adult) Grasshoppers Leafhoppers Mealybugs Millipedes Mites ⁶ Mole Crickets (Adult) ⁷ Mole Crickets (Nymph) ⁸ Pillbugs Sowbugs	0.05 to 0.1 lbs. a.i. per Acre	0.25 to 0.5 fl. oz. per 1,000 sq. ft - or - 10 to 20 fl. oz. per Acre

(continued)

TURF APPLICATION RATES CHART (continued)

PEST	A.I. LBS. / ACRE	APPLICATION RATE
Fleas (Larvae) ⁹ Imported Fire Ants Japanese Beetles (Adult) Ticks ¹⁰	0.1 lbs. a.i. per Acre	0.5 fl. oz. per 1,000 sq. ft. - or - 20 fl. oz. per Acre
Ants Imported Fire Ants ¹² Mole Crickets Stink Bugs	0.2 lbs. a.i. per Acre ¹¹	1.0 fl. oz. per 1,000 sq. ft. ¹¹ - or - 40 fl. oz. per Acre ¹¹

Comments

¹ **Armyworms, Cutworms and Sod Webworms:** To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the turf area is being maintained at a mowing height of greater than 1 inch, then higher application rates (up to 0.1 lb. a.i./Acre or 20 fl. oz. of this product) may be required during periods of high pest pressure.

² **Annual Bluegrass Weevil (*Hyperodes*) (Adults):** Applications should be timed to control adult weevils as they leave their overwintering site and move into turf areas. This movement generally begins when *Forsythia* is in full bloom and concludes when flowering dogwood (*Comus Florida*) is in bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.

³ **Billbugs (Adult):** 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 ataeenius adults, respectively. The May application should be timed to coincide with the full bloom stage of Vanhoutte spiraea (*Spiraea vanhoutte*) 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. 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 relatively long mowing height is being maintained. Chinch bugs can be one of the most difficult pests to control in grasses and the higher application rates (up to 0.1 lb. a.i./Acre or 20 fl. oz.) may be required to control populations that contain both nymphs and adults during the middle of summer.

⁶ **Mites:** To ensure optimal control of eriophyid 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 control.

⁷ **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 inch 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. Turf 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).

⁸ **Mole Cricket Nymphs:** Turf 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 inch 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.

⁹ **Flea 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 0.25 fluid oz. per 1,000 square feet for adult flea control, then the larval application rate may be achieved by doubling the application volume.

¹⁰ **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 spray volumes when treating areas with dense ground cover or heavy leaf litter. Ticks may be reintroduced from surrounding areas on host animals. A repeat application, seven days after the first, may be necessary to achieve and/or maintain control. Do not allow public use of the treated areas during application or until sprays have dried.

Deer Ticks (*Ixodes spp.*) have a complicated life cycle that ranges over a two-year period and involves four life stages. Applications should be made 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.

¹¹ **Note:** For large infestations of ants, imported fire ants, and mole crickets, a single application of 0.2 lb a.i./Acre (40 fl. oz.) may be applied once per year.

¹² **Imported 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 should apply 0.2 lb. a.i./Acre (40 fl. oz). Mounds should be treated by diluting 1.0 teaspoon of this product per gallon of water and applying 1 to 2 gallons of finished spray per mound. The mounds should be treated with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. A four-foot diameter circle around the mound should also be treated. For best results, apply in cool weather (65 - 80°F) or in early morning or late evening hours. Note: A spray rig that is calibrated to apply 0.2 lb a.i./Acre (40 fl. oz.) of this product in 5 gallons per 1,000 square feet contains the approximate dilution (1.0 teaspoon per gallon) that is required for fire ant mound drenches in the spray tank.

Impregnation and Application on Dry Bulk Turf Fertilizers

This product may be impregnated on dry bulk fertilizers. When applied as directed, Menace/dry bulk fertilizer mixture provides insect control equal to that provided by the same rates of Menace in water.

Impregnation: Apply using a minimum of 100 pounds of dry bulk fertilizer per acre with the indicated amount of Menace per acre. Use a closed rotary-drum mixer or a similar type of closed blender equipped with suitable spray equipment. Position the spray nozzle(s) to provide a uniform, fine spray pattern over the tumbling fertilizer for thorough coverage. The physical properties of fertilizers vary, particularly in liquid absorptive capacity. When absorptivity is sufficient, simple spray impregnation of the fertilizer with Menace provides a satisfactory, dry mixture. If the absorptive capacity is inadequate, use of a highly absorptive powder is required to provide a dry, flowable mixture. Microcel E (Johns-Manville Products Corporation) is an example of a highly absorptive powder. Generally less than 2% by weight of Microcel E is required. **DO NOT** impregnate Menace onto straight coated ammonium nitrate or limestone because these materials will not absorb the insecticide. Dry fertilizer blends containing mixtures of ammonium nitrate or limestone may be impregnated with Menace. Determine the amount of Menace required in the preparation of individual fertilizer mixtures carefully for each production operation. This is necessary to ensure that the amount of pesticide contained in the mixture applied to the soil represents the correct rate of use. Immediately apply bulk fertilizer impregnated with Menace. Do not store.

All individual Federal and state regulations relating to bulk dry fertilizer blending, registration, labeling, and application of the mixtures are the responsibility of the individual and/or company selling the fertilizer and Menace mixture.

Use turf fertilizers recommended for specific regions.

TURF APPLICATION RESTRICTIONS

Apply with ground application equipment only (and apply with nozzles not more than two feet above the turf).

DO NOT apply when turf areas are water-logged or soil is saturated with water (i.e. will not accept irrigation).

New York State Restrictions:

In New York State, **DO NOT** apply to turf within 100 feet of a coastal marsh (or of a water body [lake, pond, river, stream, wetland, or drainage ditch].)

In New York State, 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.

NOT FOR USE ON SOD FARMS IN THE STATE OF NEW YORK.

ORNAMENTALS, TREES AND GREENHOUSES APPLICATION DIRECTIONS AND RATES

The application rates listed in the following table will provide control of the respective pests under typical conditions. However, at the discretion of the applicator, this product may be applied at up to 0.2 lbs. a.i./Acre (40 fl. oz) to control each pest listed in the **APPLICATION RATES FOR LANDSCAPE ORNAMENTALS, TREES AND GREENHOUSES** Table.

Certain cultivars may be sensitive to final spray solution. A small number of plants should be treated and observed for one week prior to application to the entire planting.

APPLICATION RATES FOR LANDSCAPE ORNAMENTALS, TREES AND GREENHOUSES		
PEST	RATES	
	POUNDS A.I. PER ACRE	FLUID OUNCES PER ACRE
Aphids Bagworms ¹³ Cutworms Elm Leaf Beetles Fall Webworms Lace Bugs Leaf Feeding Caterpillars Plant Bugs (including <i>Lygus</i> spp.) Tent Caterpillars	0.025 - 0.05	5 - 10
Beet Armyworm Black Vine Weevil (Adults) Brown Soft Scales Broad Mites Budworms California Red Scale (Crawlers) ¹⁴ Centipedes Citrus Thrips Clover Mites Crickets Diaprepes (Adult) Earwigs European Red Mite Flea Beetles Fungus Gnats (Adults) Grasshoppers Gypsy Moth Caterpillars Leafhoppers Leafrollers Mealybugs Millipedes Mites Orchid Weevil	0.05 - 0.1	10 - 20
Pillbugs Pine Needle Scales (Crawlers) ¹⁴ San Jose Scales (Crawlers) ¹⁴ Sowbugs Spiders Spider Mites Thrips Tip Moths Twig Borers ¹⁴ Weevils Whiteflies	0.05 - 0.1	10 - 20
Ants Imported Fire Ants** Japanese Beetles (Adult) Leafminers Pecan Leaf Scorch Mite Pine Shoot Beetle (Adult) Stink Bugs	0.1 to 0.2	20 to 40

Comments

¹³ **Bagworms:** Apply when larvae begin to hatch and spray larvae directly. Application when larvae are young will be most effective.

¹⁴ **Scale Crawlers and Twig Borers:** Treat trunks, stems and twigs in addition to plant foliage.

** For foraging ants.

NURSERY DILUTION CHART					
Application Volume: Gallons Per Acre	Application Rate: Pounds A.I./Acre	Fluid Ounces* of This Product Diluted to these Volumes of Finished Spray			
		1 gallon	25 gallons	50 gallons	100 gallons
50	0.025	0.1	2.5	5.0	10.0
50	0.05	0.2	5.0	10.0	20.0
50	0.1	0.4	10.0	20.0	40.0
50	0.2	0.8	20.0	40.0	80.0
100	0.025	0.05	1.25	2.5	5.0
100	0.05	0.1	2.5	5.0	10.0
100	0.1	0.2	5.0	10.0	20.0
100	0.2	0.4	10.0	20.0	40.0
150	0.025	0.03	0.83	1.67	3.3
150	0.05	0.07	1.67	3.33	6.7
150	0.1	0.133	3.33	6.67	13.3
150	0.2	0.266	6.67	13.33	26.7
200	0.025	0.025	0.63	1.25	2.5
200	0.05	0.05	1.25	2.5	5.0
200	0.1	0.1	2.5	5.0	10.0
200	0.2	0.2	5.0	10.0	20.0
250	0.025	—	0.5	1.0	2.0
250	0.05	—	1.0	2.0	4.0
250	0.1	—	2.0	4.0	8.0
250	0.2	—	4.0	8.0	16.0
300	0.025	—	0.42	0.83	1.7
300	0.05	—	0.83	1.67	3.3
300	0.1	—	1.67	3.33	6.7
300	0.2	—	3.33	6.67	13.3

* To convert to milliliters, multiply by 29.57.

1 fluid ounce = 29.57 ml = 2 tablespoons = 6 teaspoons

DO NOT use household utensils to measure this product.

Formula for Determining the Active Ingredient Content of the Finished Spray Mixture: The following formula may be used to determine the percent active ingredient that is in the spray tank after mixing this product.

$$\frac{(7.9)(\text{fluid ounces of this product added to tank})}{(\text{Gallons of finished spray mix})(128)} = \text{Percent active ingredient of spray}$$

GREENHOUSE MIXING TABLE

Rate of This Product in Ounces 10 gallons	This Product Per Gallons of Finished Spray				
	1 gallon	3 gallons	5 gallons	25 gallons	100 gallons
0.80 (0.004)	-	1/4	1/2	2	8
1.20 (0.006)	1/8	1/3	2/3	3	12
2.0 (0.010)	1/4	2/3	1	5	20
4.0 (0.020)	1/2	1-1/3	2	10	40

ORNAMENTALS, TREES AND GREENHOUSES APPLICATION RESTRICTIONS

Apply with ground application equipment only.

IMPORTED FIRE ANT QUARANTINE TREATMENT

Against Imported Fire ants (IFA) in potting media (including balled and containerized nursery grown ornamental trees, shrubs, plants, flowers, conifers, bushes, Christmas trees, and non-bearing fruit and nut-trees). This product is approved and can be used in accordance with the USDA Imported Fire Ant Quarantine Program. Apply this product by soil incorporation, as a topical application, or as a high volume drench treatment.

Soil Incorporation: 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 the media. The applications are based on the dry bulk density of the potting media. When used in accordance with USDA guidelines, this application will provide a 6-month certification period.

SOIL INCORPORATION RATE OF THIS PRODUCT FOR CONTROL OF IFA IN POTTING MEDIA

POTTING MEDIA BULK DENSITY (POUNDS CUBIC YARD)	FLUID OUNCES OF THIS PRODUCT IN ONE CUBIC YARD
200	1.9
400	3.8
600	5.7
800	7.6
1,000	9.5
1,200	11.4
1,400	13.3

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

Topical Application: Mix this product in 1,000 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 OF THIS PRODUCT FOR CONTROL OF IFA IN POTTING MEDIA

POTTING MEDIA BULK DENSITY (POUNDS CUBIC YARD)	FLUID OUNCES OF THIS PRODUCT PER 1,000 OUNCES OF WATER	
	3 QUART CONTAINER	4 QUART CONTAINER
200	3.6	5.2
400	7.2	10.4
600	10.8	15.6
800	14.4	20.8
1,000	18.0	26.0
1,200	21.6	31.2
1,400	25.2	36.4

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 OF THIS PRODUCT FOR CONTROL OF IFA IN POTTING MEDIA

POTTING MEDIA BULK DENSITY (POUNDS CUBIC YARD)	FLUID OUNCES OF THIS PRODUCT IN 100 GALLONS
200	2.4
400	4.8
600	7.2
800	9.6
1,000	12.0
1,200	14.4
1,400	16.8

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

LARVAL CONTROL IN POTTING MEDIA OF CONTAINERIZED PLANTS

Black Vine Weevil Larval Control - Preventative Treatment Topical Drench: For preventative control of Black Vine Weevil larvae in containerized plants, dilute this product at the rate of 10 to 40 fluid ounces (0.05 to 0.2 pound a.i.) 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. Diluting 10 fluid ounces of the product per 100 gallons and applying 8 fluid ounces of finished spray per 6 inch (diameter) container will provide Black Vine Weevil Larval control for one growing season when the application is made in the spring. Diluting 20 to 40 fluid ounces of this product per 100 gallons and applying 8 fluid ounces of finished spray per 6 inch (diameter) container will provide Black Vine Weevil larval control for two growing seasons when the application is made in the spring.

White Grub Control - Preventative Treatment - Topical Drench: For preventative control of White Grubs (including, but not limited to, Japanese Beetle, Oriental Beetle and European Chafer) in containerized plants, dilute this product at the rate of 40 to 80 fluid ounces (0.2 to 0.4 pound a.i.) 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.

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 the media. Use the higher application rates for longer periods of control.

POTTING MEDIA BULK DENSITY (POUNDS PER CUBIC YARD)	FLUID OUNCES OF THIS PRODUCT IN ONE CUBIC YARD			
	10PPM	15PPM	20PPM	25PPM
200	0.4	0.6	0.8	1.0
300	0.6	0.9	1.2	1.5
400	0.8	1.2	1.6	2.0
500	1.0	1.5	2.0	2.5
600	1.2	1.8	2.4	3.0
700	1.4	2.1	2.8	3.5
800	1.6	2.4	3.2	4.0
900	1.8	2.7	3.6	4.5
1,000	2.0	3.0	4.0	5.0

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 10 to 40 fluid ounces (0.05 to 0.2 pound a.i.) 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 Preventative Root Weevil Larval Control: To protect treated roots of field grown nursery stock from feeding by Root Weevil Larvae, dilute one gallon of this product in 100 gallons of water and treat the bare roots of plants that are being transplanted into the field either by dipping the roots into the insecticide solution for ten seconds 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 10 to 40 fluid ounces (0.05 to 0.2 pound a.i.) 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 20 to 40 fluid ounces (0.1 to 0.2 pound a.i.) 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 10 to 40 fluid ounces (0.05 to 0.2 pound a.i.) 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. Treat the media to the point of saturation, which generally requires 1/5 the volume of the container.

STORAGE AND DISPOSAL

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, replace lids and close tightly. Do not put concentrate or dilute material into food or drink container.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

To Confine Spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. **DO NOT** contaminate water, food or feed by storage or disposal. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. Dispose of excess or waste pesticide by use according to label directions, or contact your State pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL [HANDLING]:

NOTE: This product is available in multiple containers. Refer to the Net Contents section of this products labeling for the applicable "Nonrefillable" or "Refillable" designation. Follow the container disposal [handling] instructions below that apply to your container type / size.

[Nonrefillable Containers 5 Gallons or Less:]

Nonrefillable container. DO NOT reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a 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 or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke.

[Nonrefillable containers larger than 5 Gallons:]

Nonrefillable container. DO NOT reuse or refill this container. Offer for recycling if available. If recycling or reconditioning is not available, puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 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 it back and forth several times. Turn the container over onto its other end and tip it 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.

[Refillable containers larger than 5 gallons]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. 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. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

[Refillable containers for return to Nufarm]

Refillable Container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Close all openings and replace all caps. Contact Nufarm's Customer Service Department at 1-800-345-3330 to arrange for return of the empty refillable container.

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

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