

Onyx®



INSECTICIDE

For use by commercial applicators to control pests on lawns and ornamental plants.

EPA Reg. No. 279-3177

EPA Est. 279-NY-1

Active Ingredient:	By Wt.
Bifenthrin*	23.4%
Other Ingredients**	76.6%
	100.0%

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

**Contains petroleum distillates.

Onyx® Insecticide contains 2 pounds active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN
WARNING

See other panels for additional precautionary information.

FMC

FMC Corporation
Agricultural Products Group
1735 Market Street
Philadelphia PA 19103

Net Contents: 1 Gallon

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 a poison control center or doctor. • Do not give any liquid to the person. • 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 15-20 minutes. • Call a poison control center or doctor for 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 eye. • Call a poison control center or doctor for treatment advice.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-(800)-331-3148 for Emergency Assistance.

NOTE TO PHYSICIAN

Pesticide Hotline (800) 858-7378. 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. Treatment is symptomatic and supportive. Animal and vegetable fats, milk, cream and alcohol may increase absorption and should not be administered.

For Information Regarding the Use of this Product Call 1-800-321-1FMC (1362).

PRECAUTIONARY STATEMENTS

Hazards to Humans (and Domestic Animals)

Warning

May be fatal if swallowed. Causes skin irritation and moderate eye irritation. Do not get on skin or on clothing. Avoid breathing vapors or spray mist, and contact with eyes. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash contaminated clothing before reuse.

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

Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters. Do not apply when weather conditions favor drift from treated areas. Care should be used when spraying to avoid fish and reptile pets in/around ornamental ponds.

Do not apply this product or allow it to drift to crops or weeds on which Bees are actively foraging. Additional information may be obtained from your Cooperative Extension Service.

Physical/Chemical Hazards

Do not use or store near heat or open flame.

Do not apply this product in or on electrical equipment due to the possibility of shock hazard.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply by air.

Do not use in greenhouses, nurseries.

STORAGE AND DISPOSAL

Pesticide Storage

If crystals are observed, warm material to above 60°F by placing container in warm location. Shake or roll container periodically to redissolve solids. Do not use external source of heat for warming container.

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

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call FMC: (800) 331-3148.

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

Pesticide Disposal

Pesticide wastes are toxic. 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 at the nearest EPA Regional Office for guidance.

Container Disposal

Metal or Plastic Container: Non-refillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank and drain for 10 seconds after flow begins to drip. Fill the 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 flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Returnable/Refillable Containers: 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 into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

General Information on the Use of this Product

Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended for aesthetic purposes or climatic modifications and being grown in interior plantscapes, ornamental gardens or parks, or lawns and grounds.

General Applications Instructions

Onyx[®] Insecticide formulation mixes readily with water and other aqueous carriers, and controls a wide spectrum of insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in outdoor plantscapes, such as around residential dwellings, parks, institutional buildings, recreational areas, athletic fields and home lawns. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity during the season of application.

Onyx[®] may be tank-mixed with other products, including insect growth regulators. When tank mixing Onyx[®] 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 Onyx[®] 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 recommended 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.

When using tank mixes, observe all restrictions and precautions which appear on the labels of these products. Provide constant agitation to keep the mixture in solution.

APPLICATION RECOMMENDATIONS

Lawn: Apply Onyx[®] 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, as is immediate irrigation of treated area with at least 0.25 inches of water following application to ensure efficacy of sub-surface pests such as, but not limited to, Mole Crickets.

LAWN APPLICATION RATES

Pest	Onyx
Annual Bluegrass Weevil ¹ (<i>Lissonotus</i> , formerly Hyperodes) Armyworms ² Billbugs Crane Flies ³ Crickets Cutworms ² Earwigs Fall Webworms Fleas (adults, larvae) Grasshoppers Mealybugs Mites Sod Webworms ² Spittlebugs	0.07-0.15 fl.ozs. per 1000 square feet
Ants Chinch Bugs Imported Fire Ants ⁵ Japanese Beetles (adult) Mole Crickets ⁴ Ticks ⁶	0.07-0.30 fl.ozs. per 1000 square feet

To maximize efficacy against sub-surface pests, Onyx[®] Insecticide should be applied 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. Treated areas should then be irrigated 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.

¹Applications should be timed 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 webworms.

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.

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

⁶**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. 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. 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. Applications should be made as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

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 when wind conditions favor downwind drift to nearby water bodies.

Do not apply when wind velocity exceeds 10 miles per hour.

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

Ornamentals and Trees (Foliar applications): For ornamental applications, dilute 0.26 to 1.28 fluid ounces of Onyx[®] Insecticide per 10 gallons of water and apply at the rate of 10 gallons per 4,356 square feet. One gallon of finish spray will treat 435 square feet. If a higher volume application is required for adequate coverage of the plant canopy, Onyx[®] may be diluted in large volumes of water as long as the maximum label rate (1.28 fluid ounces per 4,356 square feet) is not exceeded. Onyx[®] may be applied through low volume equipment by dilution with water and providing the maximum label rate (1.28 fluid ounces per 4,356 square feet) is not exceeded.

ORNAMENTAL APPLICATION RATES

Pest	Rate		Comments
	lb ai/ 10 Gallons	fl.oz./ 10 Gallons	
Ants	0.004 to 0.02	0.26	Apply the specified rate as a full coverage foliar spray. Repeat as necessary to achieve control using higher rates as pest pressure and foliage area increases. Repeat application should be limited to no more than once per seven days. To control Bagworm: Apply when larvae begin to hatch. Spray larvae directly. Applications made when larvae are young will be most effective. Spray at the time of bud break to control Douglas-fir needle midge. To control scale crawlers and twig borers: Treat trunks, stems, and twigs in addition to plant foliage. Best results are achieved when thorough spray coverage is achieved at the beginning of crawler activity. 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. Use of an alternate class of chemistry in a treatment program is recommended to prevent or delay pest resistance. Use sufficient water to obtain uniform coverage. Typical use rates are 10 gallons of spray per 4,356 square feet. To control Black Vine Weevil and Fungus Gnat larvae, apply as a drench at the rate of approximately 8 ounces of finished spray per 6 inch pot. *For 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.
Aphids		to	
Bagworms		1.28	
Black Vine Weevil (adults)			
Brown Soft Scales			
Broad Mites			
Budworms			
Centipedes			
Cicadas			
Clover Mites			
Crickets			
Cutworms			
Douglas-fir Needle Midge			
Earwigs			
Elm Leaf Beetles			
Fall Webworms			
Flea Beetles			
Glassywinged Sharp shooter			
Grasshoppers			
Gypsy Moth Caterpillars			
Lace Bugs			
Leafhoppers			
Leaf feeding Caterpillars			
Mealybugs			
Millipedes			
Mole Crickets*			
Mosquitoes			
Nantucket Pinetip Moth			
Orchid Weevil			
Pillbugs			
Pine Sawflies			
Plant Bugs (incl. Lygus spp)			
Psyllids			
Scale (crawlers)			
Scorpions			
Sowbugs			
Spiders			
Spittlebugs			
Tent Caterpillars			
Tip Moths			
Weevils			
Whiteflies			
Citrus Thrips	0.006 to 0.02	0.38	
Beet Armyworm		to	
Diaprepes (larvae, adult)		1.28	
European Red Mite			
Leafrollers			
Spider Mites			
Thrips			
Treehoppers			
Twig Borers			
Zimmerman Pine Moth			
Black Vine Weevil (larvae)	0.01 to 0.02	0.64	
Fungus Gnats (adults & larvae)		to	
Imported Fire Ant Foragers		1.28	
Japanese Beetles (adult)			
Leafminers			
Pecan Leaf Scorch Mite			
Wasps			

TRUNK SPRAYS TO ORNAMENTAL TREES

Control of *Dendroctonus* bark beetles such as mountain pine beetle, southern pine beetle, western pine beetle, Black turpentine beetle, and engraver beetles (*Ips* spp.)

Preventative control: Make applications of a spray mixture containing 1.0 to 2.0 pints of Onyx[®] Insecticide per 100 gallons (0.25 to 0.5 lbs. ai/100 gallons) of water to the trunk of the tree with a hydraulic sprayer in the spring of the year or when a threat of infestation is evident from nearby infested trees. 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 (usually 1 to 4 gallons of spray per tree). Do not apply more than 0.2 lbs. ai (12.8 fl. oz.) of this product to trees per acre. Repeat application may be necessary if reinfestation is likely. Application rates and application timing differ according to the target pest and other factors peculiar to each local situation. Consult your local State Extension specialist or other qualified expert for specific recommendations.

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 half way into the live crown. Spray until the bark is thoroughly wetted by the spray (usually 1 to 4 gallons of spray per tree). Do not apply more than 0.2 lbs. ai (12.8 fl. oz.) of this product per acre. Trees on which all needles have turned brown 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 per acre.

Other bark beetles such as Ambrosia beetles, Elm bark beetles and Emerald Ash borer

Preventative control: Make applications of a spray mixture containing 1.0 to 2.0 pints of this product per 100 gallons (0.25 to 0.5 lbs. ai/100 gallons) of water to the trunk, scaffolding and limbs of the tree with a hydraulic sprayer in the early spring or prior to adult beetle flight and tree infestation. Spray until the bark is thoroughly wetted by the spray (usually 6 to 12 gallons of spray per tree). Do not apply more than 0.2 lbs. ai of this product to trees per acre. Repeat application may be necessary if reinfestation is likely or for extended adult emergence and flight. Application rates and application timing differ according to the target pest and other factors peculiar to each local situation. Consult your local State Extension specialist or other qualified expert for specific recommendations.

OTHER BORERS ON ORNAMENTAL TREES

For other boring insects consult the table below. Application rate and timing will vary according to geographic location and environmental conditions. Spray until the bark is thoroughly wetted by the spray (usually 1 to 4 gallons of spray per tree). Do not apply more than 100 gallons of diluted spray mixture to trees on a treated acre. Consult your local County or State Extension specialist or other qualified authority for specific recommendations.

Pest	Recommended Rate	Specific Instructions
Clearwing Moth borers Ash borer, banded ash clearwing, Dogwood borer, Lesser peachtree borer, Lilac borer, Oak borer	6.4 to 12.8 fl. oz. per 100 gallons	Apply to the lower branches and trunks prior to adult emergence.
Coleopteran borers Bronze birch borer, Flatheaded apple tree borer	6.4 to 12.8 fl. oz. per 100 gallons	
For maximum residual control of the above listed pests.	12.8 fl. oz. per 100 gallons	

Pest Control on Outside Surfaces and Around Buildings

For control of ants, including Carpenter Ants, Armyworms, Bees, Centipedes, Chiggers, Chinch Bugs, Clover Mites, Crickets, Cutworms, Dichondra Flea Beetles, Earwigs, European Craneflies, Flees, Flies, Grasshoppers, Hornets, Millipedes, Mosquitoes, Moths, Roaches, including Cockroaches, Scorpions, Sod Webworms, Sowbugs (Pillbugs), spiders including Black Widow Spiders, Springtails and Wasps.

Apply Onyx® Insecticide using a 0.03 to 0.06% emulsion as a residual spray to outside surfaces of buildings including, but not limited to, exterior siding, foundations, porches, window frames, eaves, patios, garages, refuse dumps, lawns such as grass areas adjacent or around private homes, duplexes, townhouses, condominiums, house trailers, apartment complexes, carports, garages, fence lines, storage sheds, barns, and other residential and non-commercial structures, soil, trunks of woody ornamentals and other areas where pests congregate or have been seen.

For 0.03% emulsion, mix 1/6 fluid oz. of Onyx® Insecticide per gallon of water. For 0.06% emulsion, mix 1/3 fluid oz. Onyx® Insecticide per gallon of water (1 fluid oz. = 2 tablespoons). Do not use household utensils to measure Onyx® Insecticide. Use the higher rate for heavy pest infestation, quicker knockdown or longer residual control. Repeat treatment as necessary to maintain effectiveness. Repeat application should be limited to no more than once per seven days.

Perimeter Treatment: Apply to a band of soil and vegetation 6 to 10 feet wide around and adjacent to the structure. Also, treat the foundation of the structure to a height of 2 to 3 feet. Use a spray volume of 2 to 10 gallons of emulsion per 1000 square feet. Higher volumes of water may be needed if mulch or leaf litter is present or foliage is dense. House siding may be treated if pests such as Gypsy Moth adults and caterpillars, Boxelder Bugs, Elm Leaf Beetles, Earwigs or Silverfish are present.

For Optimal Control of Ant Mounds use Onyx® Insecticide 0.06% emulsion as Drench Method: Apply 1-2 gallons of emulsion to each mound area 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". For best results, apply in cool weather, such as in early morning or late evening hours, but not in the heat of the day.

Application to Home Lawns: Apply Onyx® Insecticide as a broadcast treatment in 2 to 10 gallons of carrier per 1000 square feet. Use higher volumes to get uniform coverage when treating dense grass foliage.

Attention

Do not apply to pets, crops, or sources of electricity.

Firewood is not to be treated.

Use only in well ventilated areas.

Do not allow spray to contact food, foodstuffs, food contacting surfaces, food utensils or water supplies.

Thoroughly wash dishes and food handling utensils with soap and water if they become contaminated by application of this product.

Do not treat areas where food is exposed.

Do not apply this pesticide in livestock buildings (barns).

Do not apply a broadcast application to interior surfaces of homes.

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

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

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

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

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

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U.S. Patent No. 6,251,415 (SFR chemical technology).