

# Orthene®

TURF, TREE & ORNAMENTAL SPRAY 97

## Soluble Insecticide

Active Ingredient	By Weight
*Acephate.....	97.4 %
Inert Ingredients.....	2.6 %
Total.....	100.0 %
*O,S-Dimethyl acetylphosphoramidothioate	

U.S. Patent. No. 6,013,272

### KEEP OUT OF REACH OF CHILDREN CAUTION

<b>FIRST AID</b>	
<b>Acephate is an organophosphate, cholinesterase inhibitor.</b>	
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>EMERGENCY INFORMATION</b>	
<p><b>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</b>            FOR THE FOLLOWING EMERGENCIES, PHONE 24 HOURS A DAY:  <b>For Medical Emergencies phone:.....1-888-681-4261</b>            For Transportation Emergencies, including spill, leak or fire, phone: CHEMTREC®.....1-800-424-9300            For Product Use Information phone: AMVAC®.....1-888-462-6822</p>	
<b>NOTE TO PHYSICIAN</b>	
<p>This material contains a cholinesterase inhibitor. Measurement of blood cholinesterase activity may be useful in monitoring exposure but decisions regarding treatment will usually need to be made before test results are available. If signs of cholinesterase inhibition appear, atropine sulfate is antidotal. 2-PAM (PROTOPAM) is also antidotal and may be used in conjunction with atropine but should not be used alone.</p>	

SEE SIDE/BACK PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND DIRECTIONS FOR USE.

EPA Reg. No. 5481-8978  
EPA Est. No.

Net Contents: \_\_ Pounds



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Newport Beach, CA 92660 U.S.A.

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## PRECAUTIONARY STATEMENTS

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### HAZARDS TO HUMANS & DOMESTIC ANIMALS

#### CAUTION

Harmful if swallowed.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product butyl rubber, nitrile rubber, or neoprene. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

**Mixers, Loaders, Applicators and Other Handlers must wear:** Long-sleeved shirt and long pants, chemical-resistant gloves and shoes plus socks.

**In addition, all Mixers and Loaders and all Applicators using low pressure hand wand application equipment must wear:** A NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any N, R, P or HE filter

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

#### USER SAFETY RECOMMENDATIONS

##### Users should:

- 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 into clean clothing.

#### ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds. For terrestrial uses, 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 when cleaning equipment or disposing of equipment washwaters. Cover with soil or soil-incorporate spills.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

This product and its degradate are highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging the treatment area.

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#### DIRECTIONS FOR USE

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

**READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

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.

### 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 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 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 24 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 any waterproof material
- shoes plus socks.

### 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 or greenhouses.

Do not enter or allow others to enter until sprays have dried.

### TANK MIXES

**NOTICE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor.**

Read and follow the entire label of each product to be used in the tank mix with this product.

### USE RESTRICTIONS

- Not for indoor residential use.
- For use on turf, use limited to sod farms and golf courses, except when applying to mound or spot treatment for fire ant and harvester ant control.
- Do not apply with low pressure handwand except for control of fire ants as a mound treatment and when used on ornamental trees, shrubs and floral plants grown for non-agricultural or non-commercial use.
- For greenhouse use, use is limited to commercial greenhouses for use on ornamental, floral and foliage plants and tobacco (floatbed application).
- Do not apply through any type of irrigation equipment.
- Not for aerial application.

### MIXING INSTRUCTIONS

Thoroughly clean all sprayer components prior to mixing. Add approximately 1/2 of the required amount of water to the spray tank and begin agitation. Add the required amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY insecticide and mix thoroughly. Then add other tank mix partners or foliar feed additives and the remaining water. Maintain agitation during filling and spraying to ensure a uniform spray mixture.

For application equipment which has minimal agitation, proper attention to mixing the ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY product should be given.

### SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions, (e.g., wind directions, wind speed, temperature, relative humidity) and method of application (e.g., ground, airblast,) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

- All application equipment must be properly maintained and calibrated using water as the carrier.

- Do not apply this product as an ultralow (ULV) spray or in any carrier other than water.
- Use the largest droplet size consistent with good pest control. Small droplets are more prone to spray drift and can be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible and by avoiding excessive spray boom pressure.
- Do not apply at wind speeds greater than 10 mph at the application site.
- Apply as close to target plants as practical to obtain a good spray pattern for adequate coverage.
- For airblast applications, direct spray above foliage and turn off outward pointing nozzles at row ends and outer rows. Apply only when wind speed is 3 to 10 mph at the application site as measured by an anemometer outside of the treated area on the upwind side.
- For ground boom applications, apply with nozzle height no more than 4 feet above the ground and when wind speed is 10 mph or less at the application site as measured by an anemometer. Use medium or coarser spray according to the ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles.
- Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, nontarget crops, aquatic and wetland areas, woodlands, pastures, rangelands or animals.
- The applicator also must use all other measures necessary to control drift.

## SMALL VOLUME SPRAY EQUIPMENT

<b>Preparation of ORTHENE TURF, TREE &amp; ORNAMENTAL 97 SPRAY Spray Mix Using a Small Fluid Ounce Measuring Cup</b>		
LABEL RATES ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY IN 100 GALS. OF WATER	EQUIVALENT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY IN 25 GALS. OF WATER	EQUIVALENT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY IN 1 GALS. OF WATER (TSP./GAL.)
1/4 lb.	1 oz.	1/3 tsp.
1/2 lb.	2 oz.	2/3 tsp.
3/4 lb.	3 oz.	1 tsp.
1 lb.	4 oz.	1 1/3 tsp.

## NON-BEARING CITRUS

### USE RESTRICTIONS

- Do not graze treated areas.
- DO NOT HARVEST citrus for one year (365 days) after treatment.
- For repeat applications, use a minimum spray interval of 3 days for application rates up to and including 1/2 lb. product/A and a minimum of 7 days for rates exceeding 1/2 lb. product/A.

PLANTS	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY PER ACRE	TIME OF APPLICATION	FURTHER USE INSTRUCTIONS
Non-bearing Citrus (including citrus nursery seedlings)	Aphid Grasshopper Katydid Mealybugs Orangedogs Plant Bugs (Lygus) Thrips Whiteflies	1/2 lb. (8 oz.)	Apply as needed for control of existing populations.	Apply ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 to 200 gals. of water per acre. Spray individual juvenile or non- bearing trees for coverage with total application not to exceed specified rate in lbs. per acre. Length of residual activity will depend upon

PLANTS	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY PER ACRE	TIME OF APPLICATION	FURTHER USE INSTRUCTIONS
	Citrus Blackfly*	1/2 to 3/4 lb. (8 to 12 oz.)	The high rate should be used when a heavy infestation of Citrus Blackfly is present. Begin applications when eggs or adults first appear. Apply on a 7 to 10 day interval or as needed to maintain control.	spray coverage and the amount of moisture following application.  Do not allow livestock to graze treated areas.  DO NOT HARVEST citrus for one year after treatment.
Non-bearing Citrus (including citrus nursery seedlings)	Ants (excluding Carpenter, Fire, Harvester and Pharaoh)*	Foliar Spray 3/4 lb. (12 oz.)	Apply as needed for control of existing populations.	Apply ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 to 200 gals. of water per acre. Spray individual juvenile or non-bearing trees for coverage with total application not to exceed specified rate in lbs. per acre. Length of residual activity will depend upon spray coverage and the amount of moisture following application.
		<b>Drench Method:</b> Mix 3/4 oz. in 5 gals. of water. Apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a four (4) foot diameter circle around the mound.		For best results apply the material in the early morning or late afternoon when the ants are most active.  Applications made under prolonged hot and dry conditions may be ineffective due to the location of the ants deep within the nest.

\* Not registered in CA for control of Citrus Blackfly and Harvester Ants.

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## NURSERY STOCK

### Non-Bearing Deciduous Fruit Trees, Nut Trees and Vines In Nursery Fields or Non-Bearing Orchards

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#### USE RESTRICTIONS

- **Do Not Allow Livestock To Graze Treated Areas.**
- For application only to non-bearing trees and vines in nursery fields or in non-bearing orchards.
- Do not apply to interplants or single trees in a bearing orchard.
- Do not harvest any fruit from sprayed trees for one year (365 days) after application.
- For repeat applications, use a minimum spray interval of 3 days for application rates up to and including 1/2 lb. product/A and a minimum of 7 days for rates exceeding 1/2 lb. product/A.

PLANTS	PESTS CONTROLLED	AMOUNT OF ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY PER ACRE	TIME OF APPLICATION	FURTHER USE INSTRUCTIONS
Nursery Stock (Non-bearing Deciduous Fruit Trees, Nut Trees, Vines) Almond Apricot Apple Cherry Grape Kiwi Pear Pistachio Plum Prune Walnut	Aphid Plant Bugs (Lygus) Thrips	1/2 to 1 lb. (8 to 16 oz.)	Apply as needed for control of existing populations.	Apply ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 50 to 200 gals. of water per acre by ground and not less than 5 gals. of water per acre by air.

### NON-CROP AREAS

#### Field Borders, Fencerows, Roadsides, Ditchbanks, Borrow Pits

#### USE RESTRICTIONS

- Do not graze or feed vegetation cut from treated areas.
- Do not treat mounds more than once per season.
- Do not use on turf for control of grasshoppers.

CROP	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY PER ACRE	FURTHER USE INSTRUCTIONS
Non-Crop Areas (field borders, fencerows, roadsides, ditchbanks and borrow pits)	Grasshopper	1/4 lb. (4 oz.)	For early to mid-season application to grasshopper in field borders, fencerows, roadsides, ditchbanks and borrow pits. Apply in 1 to 5 gals. of water by air, or in 10 to 20 gals. of water with ground equipment. Use the higher volumes when spraying heavier foliage.
Non-Crop Areas	Ants (excluding carpenter and pharaoh)	<b>Drench Method:</b> Mix 3/4 oz. in 5 gals. of water. Apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a 4 foot diameter circle around the mound.	For best results apply the material in the early morning or late afternoon when the ants are most active.  Applications made under prolonged hot and dry conditions may be ineffective due to the location of the ants deep within the nest.  Grass in treated area may be injured.

## CONTAINER GROWN NURSERY STOCK

### USE RESTRICTIONS

- For repeat applications, use a minimum spray interval of 3 days for application rates up to and including 1/2 lb. product/A and a minimum of 7 days for rates exceeding 1/2 lb. product/A.

PLANTS	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY PER 100 GALS.	TIME OF APPLICATION	FURTHER USE INSTRUCTIONS
Container Grown Nursery Stock (Arborvitae, Azalea, Camellia, Rhododendron, Roses, Viburnum, Yew)	Black Vine Weevil Strawberry Root Weevil	3/4 lb. (12 oz.)	Application should be made by mid-September for greenhouse stock and by mid-October for outdoor stock. Consult your local county extension agent for information on the identification and control of root weevils on ornamentals.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY per 100 gals. of solution so as to thoroughly drench the root system.
	Ants (excluding Fire, Harvester, Carpenter and Pharaoh Ants)	3/4 lb. (12 oz.)	Apply as needed to control the pest.	

## ORNAMENTAL TREES AND SHRUBS

### USE RESTRICTIONS

- Do not exceed 16 oz. of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY per acre per application.
- Do not apply with a low pressure hand wand.
- For all trees except Flowering Crabapple and Douglas Fir application must not be made more than once every 14 days. See "Further Use Instructions" for spray interval information regarding Flowering Crabapple and Douglas Fir.

PLANTS	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY PER 100 GALS.	TIME OF APPLICATION	FURTHER USE INSTRUCTIONS
Trees and Shrubs (except Flowering Crabapple)	Aphid Bagworm Birch Leafminer Lace Bug Leafroller Tent Caterpillar*	1/4 to 1/2 lb. (4 to 8 oz.)	As the insects begin to appear.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 gals. water with a hydraulic sprayer. The addition of a suitable sticker improves control of Gypsy Moth larvae.  *Mist blower application: Adjust rates to 1 lb. product per 100 gals. of water for Gypsy Moth control and 3/4 lb. product per 100 gals. of
	Douglas Fir Tussock Moth Larvae Gypsy Moth Larvae* Webworms	1/2 lb. (8 oz.)	As the insects begin to appear.	

	Scales (Crawlers)	1/2 lb. (8 oz.)	As crawlers begin to appear. Repeat applications, at a 2 week or more interval, may be necessary where there is continuous crawler production.	water for Tent Caterpillar control.  AMVAC does not advise application be made to Huckleberry, Balm of Gilead, Cottonwood, Lombardy Poplar and Viburnum suspensum as it may result in phytotoxicity in these plants.  <b>Nursery crops:</b> Before treating large plantings, spray only a few plants and observe two weeks for phytotoxicity.
	Ponderosa Pine Needle Miner	1/2 lb. (8 oz.)	Time of application is important. Consult your Farm Advisor or County Extension Agent.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 gals. water with a hydraulic sprayer as a full coverage spray .
	Grasshopper	1/2 lb. (8 oz.)	As the grasshoppers begin to appear.	
Trees and Shrubs (except Flowering Crabapple)	California Oakworm Cankerworm (Spring and Fall)	1/4 to 1/2 lb. (4 to 8 oz.)	As the insects begin to appear. Use the higher amount when the larger larvae are present.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 gals. water with a hydraulic sprayer.
	Nantucket Pine Tip Moth Larvae	3/4 lb. (12 oz.)	Time of application is important. Consult your Farm Advisor or County Extension Agent. Repeat applications will be required for subsequent generations.	
	Root Weevil Adults	3/4 lb. (12 oz.)	Apply when first feeding damage occurs. Repeat applications, at 4 week intervals until the first heavy frost, may be necessary for complete foliage protection.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 gals. of water with a hydraulic sprayer as a full coverage spray.
	Box Elder Bug Budworm Leafhopper Sawflies	3/4 lb. (12 oz.)	As the insects begin to appear.	
	Japanese Beetle	1 lb. (16 oz.)	As the Japanese Beetles begin to appear. Repeat applications, at 2 week intervals, may be necessary.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 gals. of water with a hydraulic sprayer as a full coverage spray.
	Elm Leaf Beetle (larvae)	1 lb. (16 oz.)	As the larvae begin to appear. ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY will not prevent Elm Leaf Beetle eggs from hatching.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 gals. of water with a hydraulic sprayer as a full coverage spray.
Douglas Fir	Douglas Fir Needle Midge Douglas Fir Tussock Moth	1/2 lb. (8 oz.) (1/2 lb./A)	Application should be made no more than 2 weeks prior to bud burst. For additional pest management information, consult your County Extension Service.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in not less than 2 gals. of spray per acre by air or in 100 gals. of spray per acre by ground. Do not make more than 1 application per season.



Flowering Crabapples	Aphid Leafroller Tent Caterpillar	1/4 lb. (4 oz.)	As the insects begin to appear.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 gals. of water with a hydraulic sprayer.  Do not apply more often than 3 times in a growing season at a minimum 4 week interval.  <b>Caution:</b> Phytotoxicity has occurred on the following Crabapple varieties: Hopa, Ichonoski, Malusfloribunda, Pink Perfection, Red Wine and Snow Cloud.
Crepe Myrtle	Aphid	2 to 3 level Tbsp. (0.6 to 0.9 oz.) per 1 Tbsp. of water.	As aphids begin to appear.	Make a paint on slurry by mixing the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY with 1 Tbsp. of water. Remove the loose bark from the trunk areas to be treated. Completely paint a band around each trunk to a width twice its diameter. Application should be made to trunks within a zone 6 to 12 inches above the ground and below the point where branching begins. For multi-trunk plants be certain to treat all trunks. For either single or multi-trunk plants, application should be made as low as possible within the recommended treatment zone.

## ORNAMENTAL TREES AND SHRUBS – SOIL INJECTION

### USE RESTRICTIONS

- Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY as a soil injection.
- Do not apply more than 5 lbs. of product per acre (1.84 oz. of product per 1,000 sq. ft. of area under the dripline of the tree or shrub) per application.
- Do not apply more than once per month.
- Do not apply to areas where food crops are grown (i.e., vegetable gardens, fruit trees, berry vines, etc.), children's play areas or animal runs.

PLANTS	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY	REMARKS
Alder American Elm Aspen Ash Birch Boxwood Crepe Myrtle Dogwood Euonymus Hackberry Hawthorn Honeylocust Honeysuckle Linden	Aphids, Spider mites, Ash Sawfly*	1/10 to 1/5 oz. per inch diameter of trunk at breast height (DBH)  Dilute 0.75 lb. (12 oz.) in 126-252 qts. of water to treat 63-126 inches of trunk diameter.  OR  1/10 to 1/5 oz. per 100 sq. ft. of area under the dripline of the tree or shrub	A minimum of two (2) injection sites per inch Diameter at Breast Height (DBH ,4' 6" above the soil line) is required. For multi-stemmed trees and shrubs, use diameter of individual canes at soil line instead of DBH. Apply one (1) quart of diluted solution per injection site. Injection sites should be evenly distributed between base of trunk and dripline of canopy. (Exceptions to this use are listed under "Use Precautions").  Make a minimum of four (4) injections

Maple Oak Rive Birch Roses Snowball Viburnum Spirea Spruce Willow		Dilute 0.75 (12 oz.) in 189-378 qts. of water to treat 6,336-12,672 sq. ft. of area under the dripline of the tree or shrub.	per 25 sq. ft. of area under the dripline of the tree or shrub, using a grid pattern. Apply at least six (6) oz. of dilute solution per injection site.  Basal Injection: Space injection holes evenly around the base of the trunk no more than 12 inches out from the base.
<b>USE PRECAUTIONS:</b> Use injection equipment that can be accurately calibrated. Injections must reach a minimum depth of six (6) inches. For optimal uptake, irrigate the treated area after injecting to promote absorption into the root system. Application to dry soil may decrease performance. Performance will be optimized by thorough and uniform application to the treated root system.			

**\*Not for Use in California**

## GOLF COURSE TURFGRASS

### USE RESTRICTIONS

- **Do not allow livestock to graze treated areas.**
- **Do not feed treated grass to livestock.**
- Do not apply to turfgrass by air.
- Do not apply more than 4 1/8 lbs. (4.0 lbs. ai/A) of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY to golf courses per single application.
- For repeat applications, use a minimum spray interval of 3 days for application rates up to and including 1/2 lb. product/A and a minimum of 7 days for rates exceeding 1/2 lb/A.

PLANT	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY PER 1000 SQ. FT.	TIME OF APPLICATION	FURTHER USE INSTRUCTIONS
Golf Course Turfgrass	Cutworm Fall Armyworm Yellow Striped Armyworm Southern Armyworm	0.4 to 0.9 oz. (1 to 2 1/2 lbs./A)	As the insects appear. A repeat application at 2 week intervals may be necessary.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY per 1,000 sq. ft. Use a minimum of 5 gals. water per 1,000 sq. ft. to obtain good coverage.
	Chinch Bug	0.9 to 1.5 oz. (2 1/2 to 4 lbs./A)	Apply as needed for adult population knockdown (10 to 14 days).	
	Sod Webworm	0.4 to 0.8 oz. (1 to 2 lbs./A)	As sod webworms begin to appear. Use the higher amount when quick knockdown is needed or with heavy infestations.  Repeat application may be necessary. Do not repeat at more than 1 week intervals.	
	Leafhopper	0.8 oz. (2 lbs./A)	As the leafhoppers begin to appear. A repeat application at 1 week intervals may be necessary.	

continued

**GOLF COURSE TURFGRASS** continued

PLANT	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY PER 1000 SQ. FT.	TIME OF APPLICATION	FURTHER USE INSTRUCTIONS
Golf Course Turfgrass	Mole Cricket (except CA) Spittlebug (except CA)	0.8 to 1.4 oz. (2 to 3.9 lbs./A)	As mole crickets begin to appear. For knockdown of existing populations, more than one application may be required throughout the growing season. For heavy infestations, use the higher dosage rate.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY per 1,000 sq. ft. Use 1 to 15 gals. of water per 1,000 sq. ft. to obtain good coverage.  Apply during late afternoon or early evening hours and after an irrigation. Do not irrigate after application.  The use of a lemon fragrance substance in the spray mix may enhance control by acting as a flushing agent and thus provide increased mole cricket contact with the ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY. The following lemon scented products have been shown to be effective flushing agents: Lemon Joy, Lemon Palmolive, and Mighty Myrt Products Manufacture Base Pure Lemon Fragrance. The use rate for these lemon-scented products is 2 tsp. per gal. of water for small total mix volumes or 6 fl. oz. per 50 gals. of water for large total mix volumes.
	Greenbug ( <i>Schizaphis graminum</i> ) Grasshopper	0.4 oz. (1.0 lb./A)	Apply when insects or their damage first appears. Repeat as necessary. Application is not to be repeated at more than 1 week intervals.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY. Use 4 gals. of water per 1,000 sq. ft. to obtain good coverage. Do not mow turfgrass for at least 24 hours after application.
	Black Turfgrass Ataenius (except CA)	1.1 to 1.5 oz. (3 to 4 lbs./A)	Apply when insects or their damage first appear.	Apply the specified Amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY per 1,000 sq. ft. Use a minimum of 5 gals. of water per 1,000 sq. ft. Irrigate lightly after application (not more than 1/2 inch). Use the higher rate for severe infestations.

**SOD FARM TURFGRASS**

**USE RESTRICTIONS**

- Do not allow livestock to graze treated areas.
- Do not feed treated grass to livestock.
- Do not apply to turfgrass by air.
- Do not apply more than 3.1 lbs./A (3.0 lbs. ai/A) ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY to sod farm turfgrass in a single application.
- User must allow at least 3 days between last application and harvesting of sod.

PLANT	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY PER 1000 SQ. FT.	TIME OF APPLICATION	FURTHER USE INSTRUCTIONS
Sod Farm Turfgrass	Cutworm Fall Armyworm Grasshopper Greenbug Leafhopper Sod Webworm Southern Armyworm Yellow Striped Armyworm	0.4 to 0.9 oz. (1 to 2 1/2 lbs./A)	As the insects appear. A repeat application at 2 week intervals may be necessary.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY per 1,000 sq. ft. Use a minimum of 5 gals. of water per 1,000 sq. ft. to obtain good coverage. Do not apply more than 3.1 lbs./A in a single application.
	Chinch Bugs Mole Cricket (except CA) Spittlebug (except CA)	0.9 to 1.1 oz. (2 1/2 to 3 lbs./A)	Apply as needed for adult population knockdown (10 to 14 days).	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY per 1,000 sq. ft. Use 1 to 15 gals. of water per 1,000 sq. ft. to obtain good coverage. Do not apply more than 3.1 lbs./A in a single application.
	Sod Webworm	0.4 to 0.8 oz. (1 to 2 lbs./A)	As sod webworms begin to appear. Use the higher amount when quick knockdown is needed or with heavy infestations.  Repeat application may be necessary. Do not repeat at more than 1 week intervals.	

## MOUND TREATMENT OF FIRE ANTS AND HARVESTER ANTS IN TURFGRASS

### USE RESTRICTIONS

- **DO NOT ALLOW LIVESTOCK TO GRAZE TREATED AREAS.**
- **DO NOT FEED TREATED GRASS TO LIVESTOCK.**
- **PHI for sod farms is 3 days.**
- **Do not treat mounds more than once per season.**

PLANT	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY	TIME OF APPLICATION	FURTHER USE INSTRUCTIONS
Turfgrass  Residential, Recreational, and Commercial Turf	Imported Fire Ants and Harvester Ants	<b>Mound Treatment-</b>  <b>Drench Method:</b> Mix 3/4 oz. in 5 gals. of water. Apply 1 gal. of mix to each mound area by sprinkling the mound until it is wet and treat a 4 foot diameter circle around the mound.	For best results apply the material in the early morning or late afternoon when the ants are most active.  Applications made under prolonged hot and dry conditions may be ineffective due to the location of the ants deep within the nest.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY as directed.  Grass in treated areas may be injured.

## OUTDOOR AND PERIMETER SPRAY

### USE RESTRICTIONS

- Not for use on residential turf grass.
- Do not apply with a low pressure hand wand.

LOCATION	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY PER GALLON	TIME OF APPLICATION	FURTHER USE INSTRUCTIONS
Outdoor and Perimeter Area.	Wasps	1.2 oz.	Treat early or late in the day, as wasps are generally less active during these times.	Apply specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY per each gallon of water used. Apply as a spot treatment to the nest, nest entrance, and surrounding areas where the wasps alight.
	Ants (excluding Fire, Harvester, Carpenter and Pharaoh Ants) Cockroaches Crickets Earwigs Pillbugs	1.2 oz.	As the insects appear.	Apply specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY per each gallon of water used.  Apply to a band of soil 6 to 10 ft. adjacent to the structure and to a height of 2 to 3 ft. on the foundation where pests may be active or may find entrance. Also apply as a residual spray or with a paint brush to surfaces of buildings, window frames, shutters, entryways, screens, eaves, patios, garages, carports, around garage areas and other areas where these pests congregate.

## ORNAMENTAL PLANTS GROWN FOR CUT FLOWER PRODUCTION

### USE RESTRICTIONS

- Do not apply more than 1/2 lb./A ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY per 100 gals. of water.
- Do not exceed 0.75 lb./A ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY for cut flowers.
- Do not exceed 12 ounces of product per acre.
- For repeat applications, use a minimum spray interval of 3 days for application rates up to and including 0.5 lb. ai/A and 7 days for application rates greater than 0.5 lb. ai/A.

PLANT	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY PER 100 GALS.	TIME OF APPLICATION	FURTHER USE INSTRUCTIONS
Chrysanthemums Daisies Gladioli Roses	Aphid Lygus Thrips	1/2 lb. (8 oz.)	As insects begin to appear. Repeat applications may be necessary.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 gals. of water with a hydraulic sprayer as a full coverage spray. Multiple

				applications may cause slight tip burn or marginal leaf necrosis on some varieties. Test on a few plants to determine varietal susceptibility.
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**GREENHOUSE (Commercial only) AND OUTDOOR ORNAMENTAL PLANTS,  
FLORAL CROPS, GROUND COVERS AND FOLIAGE PLANT CROPS  
(Plants Not Produced for Cut Flowers)**

**USE RESTRICTIONS**

- Not for residential greenhouse use.
- Do not apply more than 12 oz. (0.75 lb.) of product per 100 gals. of water per acre.
- Do not apply with a low pressure hand wand.
- For repeat applications, use a minimum spray interval of 3 days for application rates up to and including 1/2 lb. product/A and a minimum of 7 days for rates exceeding 1/2 lb. product/A.
- **Do not apply under conditions involving possible drift to food, forage or other plantings that might be damaged or the crops thereof rendered unfit for sale, use or consumption.**
- This product is sold by weight and package is full when packed and is inclined to settle.

PLANTS	PESTS CONTROLLED	AMOUNT ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY PER 100 GALS.	TIME OF APPLICATION	FURTHER USE INSTRUCTIONS
Carnations Chrysanthemums	Aphid Thrips	1/2 lb. (8 oz.)	As aphids begin to appear.  As thrips begin to appear or at the tight flower bud stage. Repeat applications may be necessary.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 gals. water with a hydraulic sprayer as a full coverage spray.  Do not apply more often than once every 28 days to Carnations and Chrysanthemums.  <b>Caution:</b> Phytotoxicity has occurred on the following Chrysanthemum varieties: Albatross, Bonnie Jean, Dixie, Garland, Gem, Iceberg, Pride, Showoff, Statesman, Tally Ho, Westward Ho and Wild Honey.  Before treating large Chrysanthemum plantings, spray only a few plants and observe two weeks for varietal phytotoxicity. Application to Chrysanthemums in flower may result in flower damage.
Floral Crops Dahlias Daisies Easter Lily Gladioli <i>Gypsophila</i> Pachysandra Pansy Peony Sedum	Aphid  Mealybug Thrip Whitefly	1/2 lb. (8 oz.)  1/2 lb. (8 oz.)	As aphids begin to appear  As the insects begin to appear. A repeat application, at a 2 week interval, may be necessary for control of mealybugs and whiteflies.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 gals. water with a hydraulic sprayer as a full coverage spray. The addition of a wetting agent may be required on difficult to wet foliage.  <b>Caution:</b> Phytotoxicity has occurred on the following foliage plants:

Statice Strawflower Yarrow Zinnia Foliage Plants Anthuriums Cacti Orchids Poinsettia	Scales (Crawlers)	1/2 lb. (8 oz.)	As crawlers begin to appear. Repeat applications, at a 2 week or more interval, may be necessary where there is continuous crawler production.	<i>Blechnum gibbum, Cissus Antarctica, Ficus triangularis, Fittonia verchaffeltii, Maranta leuconeura kerchoveana, Pachystachya lutea, Plectranthus australis, Polypodium aureus, Polystichum, Pteris ensiformis, Tolmiea menziesii.</i> Before treating large plantings spray only a few plants and observe 2 weeks for varietal phytotoxicity. Application of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY on Poinsettias after bract formation may result in phytotoxicity on certain varieties.
	Sweetpotato Whitefly (except CA)	1/4 lb. (4 oz.)  +  10 2/3 fl. oz. (0.2 lb. ai) TAME® 2.4 EC Spray	Apply when insects first appear. If a population is well established, make one application of the tank mix and follow 5 to 7 days later with TAME alone at 16 fl. oz./100 gals. See TAME label for instructions.	For sweetpotato whitefly control, apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY plus TAME 2.4 EC Spray as a tank mix at a volume necessary to obtain good coverage. Follow the TAME label for specific instructions on the alternation of TAME plus ORTHENE and TAME alone and the rotation instructions to avoid potential resistance.
Roses	Aphid Leafroller Thrip	1/2 to 3/4 lb. (8 to 12 oz.)	As leaf rollers begin to appear. Use the higher amount when the large larvae are present.	Apply the specified amount of ORTHENE TURF, TREE & ORNAMENTAL 97 SPRAY in 100 gals. water with a hydraulic sprayer as a full coverage spray.  Application to Roses in flower may result in flower damage.

### STORAGE AND DISPOSAL

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

#### PESTICIDE STORAGE

Keep pesticide in original container.

Do not put concentrate or dilute into food or drink containers.

Store in a cool, dry place. Protect from excessive heat.

Do not contaminate food or foodstuffs.

Do not store or transport near feed or food.

For help with any spill, leak, fire or exposure involving this material, call day or night **1-888-462-6822**.

**PESTICIDE DISPOSAL:** To avoid wastes, use all materials in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

#### CONTAINER DISPOSAL

Nonrefillable container. Do not reuse or refill this container. Completely empty canister into application equipment. Do not reuse container. Dispose of empty canister in a sanitary landfill or by incineration, or offer for recycling, if available, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

#### LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants (a) that this product conforms to the chemical description on the label; and (b) that the directions, warnings, and other statements on this label are based upon responsible experts' evaluations of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants and residues on food crops, and upon reports of field experience. Tests have not been made on all varieties of food crops and plants, or in all states or under all conditions. **THIS WARRANTY DOES NOT EXTEND TO THE USE OF THIS PRODUCT CONTRARY TO LABEL INSTRUCTIONS, OR UNDER CONDITIONS NOT REASONABLY FORESEEABLE.**

**THERE ARE NO EXPRESS WARRANTIES OTHER THAN THOSE SET FORTH HEREIN. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW THE MANUFACTURER NEITHER MAKES NOR INTENDS, NOR**

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