

**BAG SLEEVE FRONT PANEL**

**ORTHENE® 75% SOLUBLE POWDER  
SYSTEMIC INSECTICIDE**

**GROUP 1B INSECTICIDE**

**CAUTION**



**POISON**

**READ LABEL AND ATTACHED BOOKLET BEFORE USING**

**AGRICULTURAL**

**NOT FOR INDOOR RESIDENTIAL USE**

**GUARANTEE:**

Acephate (O,S-dimethyl acetylphosphoramidothioate).....75%  
Warning, contains the allergen sulfite.

**REGISTRATION NO. 14225**

**PEST CONTROL PRODUCTS ACT**

**NET CONTENTS: 1.5 kg**

**For product information call: 1-866-761-9397**

**Arysta LifeScience North America, LLC  
15401 Weston Parkway, Suite 150  
Cary, NC 27513**

®Registered Trademark of OMS Investments, Inc., licensed exclusively to Arysta LifeScience Corporation for international agricultural use.

**PRECAUTIONS**

Harmful if swallowed. May be irritating to the eyes. Do not breathe spray mist. Avoid eye or skin contact with spray mist. KEEP OUT OF REACH OF CHILDREN AND UNAUTHORIZED PERSONNEL. Do not contaminate lakes, streams or ponds. Avoid contamination of feed and foodstuffs. 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. Store in Cool, Dry Place. Protect from Excessive Heat.

**PERSONAL PROTECTIVE EQUIPMENT****Mixing/Loading/Application:****A. Mixing and loading in all agricultural scenarios**

- Mixers/loaders must wear maximum level PPE (i.e., chemical-resistant coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves and a respirator).

**B. Applying using groundboom and soil injection equipment**

- Applicators must wear cotton coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves and a respirator.

- When handling 24 kg a.i. or less in one day (e.g., approximately 18 ha at highest

agricultural rate of 1.31 kg a.i./ha), workers may use an open cab.

- When handling more than 24 kg a.i. in one day, workers must use a closed cab (no gloves or respirator are required in a closed cab) or wear maximum level PPE (chemical-resistant coveralls over a long-sleeved shirt and long pants, chemical-resistant

gloves and a respirator).

**C. Applying using airblast (mist-blower) equipment**

- Applicators must use a closed cab and wear a long-sleeved shirt and long pants. No gloves or respirator are required in a closed cab.

- If the use of a closed cab is not feasible, applicators may use an open cab and wear maximum level PPE (i.e., chemical-resistant coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves and a respirator) and a chemical-resistant headgear.

**D. Applying using handheld equipment**

- Mixers/loaders/applicators must wear cotton coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves and a respirator.

- Mixers/loaders/applicators must not handle more than 1500 L/day of diluted product.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U. S., visit CropLife Canada's web site at [www.croplife.ca](http://www.croplife.ca)

### **ENVIRONMENTAL HAZARDS**

**TOXIC** to bees exposed to direct treatment, drift or residues on flowering crops or weeds. **DO NOT** apply this product to flowering crops or weeds if bees are visiting the treatment area. Minimize the spray drift to reduce harmful effects on bees in habitats close to the application site.

**TOXIC** to birds and wild mammals. Applications may adversely affect birds and wildlife visiting the treatment area.

The use of this product may result in contamination of groundwater particularly in areas where soils are permeable (e.g., sandy soil) and/or the depth to the water table is shallow.

**TOXIC** to aquatic organisms. Observe buffer zones as specified under **DIRECTIONS FOR USE**.

### **FIRST AID**

**IF SWALLOWED**, call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

**IF ON SKIN OR CLOTHING**, take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

**IF INHALED**, 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 centre or doctor for further treatment advice.

**IF IN EYES**, 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 centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

### **TOXICOLOGICAL INFORMATION**

Acephate is an organophosphate that is a cholinesterase inhibitor. Typical symptoms of overexposure to cholinesterase inhibitors include headache, nausea, dizziness, sweating, salivation, runny nose and eyes. This may progress to muscle twitching, weakness, tremors, incoordination, vomiting, abdominal cramps and diarrhea in more serious poisonings. A life-threatening poisoning is signified by loss of consciousness, incontinence, convulsions, and respiratory depression with a secondary cardiovascular component. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate degree of exposure (baseline data are useful).

Atropine, only by injection, is the preferable antidote. Oximes, such as pralidoxime chloride, may be therapeutic if used early; however, use only in conjunction with atropine. In cases of severe acute poisoning, use antidotes immediately after establishing an open airway and respiration. With oral exposure, the decision of whether to induce vomiting or not should be made by an attending physician.

### **DECONTAMINATION**

NOTE: Hydrated limes, Hypochlorite oxidants, and other alkaline material should NOT be used in clean up procedures. Spills of POWDERS should be scooped into disposable containers. If ORTHENE LIQUIDS are spilled, spread a heavy clay absorbent over spill. Shovel material into disposable container.

### **DISPOSAL**

1. Triple or pressure rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial instructions for any required additional cleaning of the container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.
5. For further information on the disposal of unused, unwanted product contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of spills and for clean-up of spills.

### **NOTICE TO USER**

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *PEST CONTROL PRODUCTS ACT* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

**BOOKLET**

**ORTHENE® 75% SOLUBLE POWDER  
SYSTEMIC INSECTICIDE**

<b>GROUP</b>	<b>1B</b>	<b>INSECTICIDE</b>
--------------	-----------	--------------------

**CAUTION**



**POISON**

**READ LABEL BEFORE USING**

**AGRICULTURAL**

**NOT FOR INDOOR RESIDENTIAL USE**

**GUARANTEE:**

Acephate (O,S-dimethyl acetylphosphoramidothioate).....75%

Warning, contains the allergen sulfite.

**REGISTRATION NO. 14225**

**PEST CONTROL PRODUCTS ACT**

**NET CONTENTS: 1.5 kg**

**For product information call: 1-866-761-9397**

**Arysta LifeScience North America, LLC  
15401 Weston Parkway, Suite 150  
Cary, NC 27513**

®Registered Trademark of OMS Investments, Inc., licensed exclusively to Arysta LifeScience Corporation for international agricultural use.

**READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH LABEL CAUTIONS, WARNINGS AND DIRECTIONS.**

**KEEP PESTICIDE IN ORIGINAL CONTAINER. DO NOT PUT CONCENTRATE OR DILUTE INTO FOOD OR DRINK CONTAINERS.**

### **PRECAUTIONS**

Harmful if swallowed. May be irritating to the eyes. Do not breathe spray mist. Avoid eye or skin contact with spray mist. **KEEP OUT OF REACH OF CHILDREN AND UNAUTHORIZED PERSONNEL.** Do not contaminate lakes, streams or ponds. Avoid contamination of feed and foodstuffs. 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. Store in cool, dry place. Protect from excessive heat.

### **PERSONAL PROTECTIVE EQUIPMENT**

#### **Mixing/Loading/Application:**

##### **A. Mixing and loading in all agricultural scenarios**

- Mixers/loaders must wear maximum level PPE (i.e., chemical-resistant coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves and a respirator).

##### **B. Applying using groundboom and soil injection equipment**

- Applicators must wear cotton coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves and a respirator.
- When handling 24 kg a.i. or less in one day (e.g., approximately 18 ha at highest agricultural rate of 1.31 kg a.i./ha), workers may use an open cab.
- When handling more than 24 kg a.i. in one day, workers must use a closed cab (no gloves or respirator are required in a closed cab) or wear maximum level PPE (chemical-resistant coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves and a respirator).

##### **C. Applying using airblast (mist-blower) equipment**

- Applicators must use a closed cab and wear a long-sleeved shirt and long pants. No gloves or respirator are required in a closed cab.
- If the use of a closed cab is not feasible, applicators may use an open cab and wear maximum level PPE (i.e., chemical-resistant coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves and a respirator) and a chemical-resistant headgear.

##### **D. Applying using handheld equipment**

- Mixers/loaders/applicators must wear cotton coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves and a respirator.
- Mixers/loaders/applicators must not handle more than 1500 L/day of diluted product.

**Post application:**

- Do not enter or allow worker entry into treated areas during the re-entry intervals (REIs) as listed below:

Brussels sprouts	12 hours
Cabbage	12 hours
Cauliflower	12 hours
Celery	1 day*
Corn	5 days*
Cranberries	12 hours
Lettuce	1 day*
Peppers	1 day
Potatoes	1 day*
Cut flowers/roses	1 day
Saskatoon berries	3 days
Tobacco	1 day*
Tomatoes	12 hours
Ornamentals	12 hours
Trees	3 days*

\* Workers conducting activities that involve significant foliar contact must wear gloves and cotton covers for the following time after the REI:

Corn	4 weeks
Celery	2 weeks
Lettuce	2 weeks
Tobacco	2 weeks
Potatoes	1 week
Trees	1 week"

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U. S., visit CropLife Canada's web site at [www.croplife.ca](http://www.croplife.ca)

**ENVIRONMENTAL HAZARDS**

**TOXIC** to bees exposed to direct treatment, drift or residues on flowering crops or weeds. **DO NOT** apply this product to flowering crops or weeds if bees are visiting the treatment area. Minimize the spray drift to reduce harmful effects on bees in habitats close to the application site.

**TOXIC** to birds and wild mammals. Applications may adversely affect birds and wildlife visiting the treatment area.

The use of this product may result in contamination of groundwater particularly in areas where soils are permeable (e.g., sandy soil) and/or the depth to the water table is shallow.

**TOXIC** to aquatic organisms. Observe buffer zones as specified under DIRECTIONS FOR USE.

### **FIRST AID**

**IF SWALLOWED**, call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. **IF ON SKIN OR CLOTHING**, take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice. **IF INHALED**, 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 centre or doctor for further treatment advice. **IF IN EYES**, 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 centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

### **TOXICOLOGICAL INFORMATION**

Acephate is an organophosphate that is a cholinesterase inhibitor. Typical symptoms of overexposure to cholinesterase inhibitors include headache, nausea, dizziness, sweating, salivation, runny nose and eyes. This may progress to muscle twitching, weakness, tremors, incoordination, vomiting, abdominal cramps and diarrhea in more serious poisonings. A life-threatening poisoning is signified by loss of consciousness, incontinence, convulsions, and respiratory depression with a secondary cardiovascular component. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate degree of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as pralidoxime chloride, may be therapeutic if used early; however, use only in conjunction with atropine. In cases of severe acute poisoning, use antidotes immediately after establishing an open airway and respiration. With oral exposure, the decision of whether to induce vomiting or not should be made by an attending physician.

### **DECONTAMINATION**

NOTE: Hydrated limes, Hypochlorite oxidants, and other alkaline material should NOT be used in clean up procedures. Spills of POWDERS should be scooped into disposable containers. If ORTHENE LIQUIDS are spilled, spread a heavy clay absorbent over spill. Shovel material into disposable container.

### **DISPOSAL**

1. Triple or pressure rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial instructions for any required additional cleaning of the container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.

For further information on the disposal of unused, unwanted product contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of spills and for clean-up of spills.

### NOTICE TO USER

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *PEST CONTROL PRODUCTS ACT* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

### DIRECTIONS FOR USE ON CROPS

Apply with ground application equipment only. NOT TO BE APPLIED BY AERIAL APPLICATION EQUIPMENT.

**DO NOT** apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, ditches and wetlands), estuaries or marine habitats.

Field sprayer application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) fine classification.

Airblast application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

### Buffer Zones:

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of (1) sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands), and (2) estuarine or marine habitats.

Method of Application	Buffer Zone (metres) Required for the Protection of Aquatic Habitat With Water Depth of:		
	< 1 metre	1 – 3 metres	> 3 metres
Field sprayer*	15	5	0
Airblast (early growth stage)	25	10	3

\*For field sprayer application, buffer zones can be reduced with the use of drift reducing spray shields. When using a spray boom fitted with a full shield (shroud, curtain) that extends to the crop canopy or ground, the labeled buffer zone can be reduced by 70%. When using a spray boom where individual nozzles are fitted with cone-shaped shields that are no more than 30 cm above the crop canopy or ground, the labeled buffer zone can be reduced by 30%.

### RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, please note that ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE contains a Group 1B insecticide. Any insect population may contain individuals naturally resistant to ORTHENE 75% SOLUBLE POWDER SYSTEMIC

INSECTICIDE and other Group 1B insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but are specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance:

- Where possible, rotate the use of ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE or other Group 1B insecticides with different groups that control the same pests in a field.
- Use tank mixtures with insecticides from a different group when such use is permitted.
- Insecticide use should be based on an IPM program that includes scouting, record keeping, and considers cultural, biological and other chemical control practices.
- Monitor treated pest population for resistance development.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact Arysta LifeScience North America, LLC at 1-866-761-9397.

#### **GENERAL APPLICATION INSTRUCTIONS AND LIMITATIONS**

**DO NOT** handle more than 1500 L of diluted spray solution per day when using hand-held spray equipment.

Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat if re-infestation occurs.

<b>SITE</b>	<b>PESTS</b>	<b>RATE (a.i.)</b>	<b>APPLICATION INSTRUCTIONS AND LIMITATIONS</b>
Cabbage, Brussels Sprouts, Cauliflower	Cabbage looper, Imported cabbageworm, Diamondback moth larvae, Green peach aphid	563-825 g/ha	Apply in 225 to 1650 L of water using conventional ground application equipment. Use the high rate only when heavy pest infestations are present.  Do not feed trimmings to livestock or allow animals to graze on treated areas.  Do not apply more than 2 applications per season.  Re-entry Interval (REI): 12 hours Preharvest Interval (PHI): 28 days

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
Head lettuce (crisp head type only)	Cabbage looper, Imported cabbageworm, Diamondback moth larvae, Green peach aphid	563-825 g/ha	<p>Apply in 225 to 1650 L of water using conventional ground application equipment. Use the high rate only when heavy pest infestations are present.</p> <p>Do not feed trimmings to livestock or allow animals to graze on treated areas.</p> <p>Do not apply more than 4 applications per season.</p> <p>Re-entry Interval (REI): 1 day Workers re-entering this crop and conducting activities that involve significant foliar contact must wear gloves and cotton coveralls for 2 weeks after the REI.</p> <p>PHI: 7 days</p>
Celery	Green peach aphid, Tarnished plant bug	563-825 g/ha	<p>Apply in 225 to 1650 L of water. Apply with ground equipment only. Apply when insects reach economic threshold levels.</p> <p>Do not apply more than 4 applications per season.</p> <p>REI: 1 day Workers re-entering this crop and conducting activities that involve significant foliar contact must wear gloves and cotton coveralls for 2 weeks after the REI.</p> <p>PHI: 21 days</p>
Corn (Seed and Sweet)	European corn borer	563-825 g/ha	<p>Apply in 220 to 1000 L of spray mix using conventional ground application equipment. Use the high rate only when heavy pest infestations are present. For European corn borer, apply when egg mass count indicates an economically damaging population.</p> <p>Do not feed corn fodder or forage from treated crop to livestock.</p> <p>Do not apply more than 4 applications per season.</p> <p>REI: 5 days Workers re-entering this crop and conducting activities that involve</p>

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
			<p>significant foliar contact must wear gloves and cotton coveralls for 4 weeks after the REI.</p> <p>PHI: 21 days</p>
Potato	Green peach aphid, Potato aphid, Potato flea beetle, Potato leafhopper, Tarnished plant bug	563-825 g/ha	<p>Apply in 225 to 1650 L of water per hectare using conventional ground application equipment. Use the high rate only when heavy pest infestations are present. Begin applications at first sign of insects and repeat on a 7- to 10-day schedule as necessary.</p> <p>Do not apply more than 4 applications per season.</p> <p>REI: 1 day Workers re-entering this crop and conducting activities that involve significant foliar contact must wear gloves and cotton coveralls for 1 week after the REI.</p> <p>PHI: 21 days</p>
Saskatoon berries (non-bearing)	Woolly elm aphid	637 mg/L  1275 mg/plant	<p><b>Soil Injection Application:</b> Provides control of woolly elm aphid in non-bearing Saskatoon berry plants. Can be used in first three years of establishment. Apply once per year in mid July or early August.</p> <p>Mix 637 mg a.i./L of water (equivalent to 6.37 g a.i./10 L of water). Apply 2 litres of this solution per plant. The solution is injected with a probe; 3 to 5 injections for each plant to a depth of 12 cm. The injection should be made 15 cm from the stem of the plant.</p> <p>DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days</p>
Saskatoon berries (bearing)	Woolly elm aphid Woolly apple aphid	637 mg/L  1275 mg/plant	<p><b>Soil Injection Application:</b> Provides control of woolly elm aphid and woolly apple aphid in bearing Saskatoon berry plants.</p> <p>Apply once per year in mid July or early August after harvest is complete.</p>

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
			<p>Mix 637 mg a.i./L of water (equivalent to 6.37 g ai.i./10 L of water). Apply 2 litres of this solution per plant. The solution is injected with a probe; 3 to 5 injections for each plant to a depth of 12 cm. The injection should be made 15 cm from the stem of the plant. A rate of 1.7 g product per plant and a planting density of 2000 plants per hectare is a rate of 3.4 kg/ha.</p> <p>DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days.</p> <p>PHI: 11 months</p>
Sweet Pepper (Bell type)	Green peach aphid, Pepper maggot	562 g/ha	<p>Apply in 225 to 1650 L of water with conventional ground application equipment. Begin applications when eggs or insects appear. Maintain a 7- to 10-day spray schedule until insects have been reduced below economic levels.</p> <p>Do not apply more than 4 applications per season.</p> <p>REI: 1 day</p> <p>PHI: 7 days</p>
	European corn borer	825 g/ha	
Tobacco (Flue cured)	Tomato hornworm, Flea beetle, Green peach aphid	563-825 g/ha	<p>Apply in at least 100 L of water using conventional ground application equipment. Apply on a 7-day schedule or as needed. Use 825 g a.i./ha for control of established populations.</p> <p>REI: 1 day</p> <p>Workers re-entering this crop and conducting activities that involve significant foliar contact must wear gloves and cotton coveralls for 2 weeks after the REI.</p> <p>PHI: 3 days</p>
	Darksided cutworm (pre-plant)	<p>563 g/ha (cover crop treatment)</p> <p>1125 g/ha (soil treatment)</p>	<p>Treat either the rye or wheat cover crop or the soil using at least 200 L of water per hectare. Applications are most effective when applied late afternoon or early evening when temperatures are 13°C or higher. Apply soon after the cutworms have hatched (mid to late April,</p>

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
			<p>4 to 5 days before plowing.)</p> <p>REI: 1 day Workers re-entering this crop and conducting activities that involve significant foliar contact must wear gloves and cotton coveralls for 2 weeks after the REI.</p>
	Darksided cutworm (post-plant)	1125 g/ha	<p>Apply in sufficient water to give good coverage of seedlings. Apply in the late afternoon or evening.</p> <p>REI: 1 day Workers re-entering this crop and conducting activities that involve significant foliar contact must wear gloves and cotton coveralls for 2 weeks after the REI.</p>
Tobacco	Darksided cutworm, Potato flea beetle, Root maggot, Green peach aphid, Thrips	825 –1275 g/ha	<p><b>Transplant water treatment:</b> Provides control for approximately 2 to 3 weeks after transplanting. Apply in a minimum of 1200 L of transplant water per hectare. Do not apply more than 1275 g a.i./ha as a transplant water application as some phytotoxicity may occur.</p> <p>REI: 1 day Workers re-entering this crop and conducting activities that involve significant foliar contact must wear gloves and cotton coveralls for 2 weeks after the REI.</p>
	Wireworm	825 g/ha	<p><b>Transplant water treatment:</b> Apply in 1200 L of transplant water per hectare. Make one application per season at transplanting.</p> <p>REI: 1 day Workers re-entering this crop and conducting activities that involve significant foliar contact must wear gloves and cotton coveralls for 2 weeks after the REI.</p>
Cranberry	Blackheaded fireworm	562 g/ha	<p>Apply one prebloom application to control the first generation of blackheaded fireworm where field scouting indicates insect numbers warrant treatment. Apply in 225 to 1650 L of water per hectare</p>

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
			using conventional ground equipment. A second application may be made post bloom if insect numbers indicate it is required.  REI: 12 hours
Tomato	Cutworms, Potato flea beetle, Root maggots, Wireworms, Aphids, Thrips, Colorado potato beetle	900 g/ha	<b>Transplant water application:</b> To provide control of listed pests for approximately 2 to 3 weeks after transplanting, apply in 2000 L of water per hectare. This rate is based on 14,000 plants per hectare.  REI: 12 hours

#### DIRECTIONS FOR USE ON TREES AND ORNAMENTALS

ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE effectively controls many insects that attack flowers, ornamentals, shrubs, trees and roses (outdoors and in the greenhouse). ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE controls insects that are present and remains effective for an extended period of time because it is systematically absorbed by plants.

Cut flowers (greenhouse and field): **DO NOT** apply more than 0.83 kg a.i./ha

Other ornamentals and trees: **DO NOT** apply more than 1.31 kg a.i./ha

Re-entry Interval (REI) for ornamental shrubs and flowers (except for roses): 12 hours

REI for trees: 3 days (workers re-entering this crop and conducting activities that involve significant foliar contact must wear gloves and cotton coveralls for 1 week after the REI.)

REI for cut flowers/roses: 1 day

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
Abelia, Forsythia, Fruitless Mulberry, Laurel, Magnolia	Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Spray 2 times, 7 to 10 days apart.
Alyssum, Daisy	Flower thrips		
Bottlebrush, Honey locust	Spider mites (except two-spotted)		
Camellia	Greenhouse whitefly, Mealybug, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium),	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Spray 2 times, 7 to 10 days apart.

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
	Spider mites (except two-spotted)		
Daylily	Flower thrips, Two-spotted spider mite	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Spray 2 times, 7 to 10 days apart.
Gladiolus	Flower thrips, Gladiolus thrips		
Lantana	Greenhouse whitefly		
Pachysandra, Phlox	Two-spotted spider mite		
Yew (taxus)	Mealybug		
Yucca	Flower thrips, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium)		
Alder	Fall webworm, Leafminer, Psyllids	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.
Ash	Aphid, Fall webworm, Gypsy moth, Lace bug, Sawflies (open feeders: blackheaded ash), Tent caterpillar (eastern and forest), Tussock moth		
Aspen, Bloodleaf (Iresine), Dusty miller, Flowering almond, Flowering quince, Gazania, Mock orange, Photinia, Pittosporum, Tulip	Aphid		
Boston ivy	Potato leafhopper	Mist blower: 1312 g/1000 L  Hydraulic	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first
Cedar	Bagworm, Gypsy moth		

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
Cockspur thorn	Cankerworm (spring and fall)	sprayer: 637 g/1000 L	noticed. Repeat application once only, if re-infestation occurs.
Deutzia	Aphid, Leafminer		
Flowering plum	Aphid, Tent caterpillar (eastern and forest)		
Hawthorn	Aphid, Cankerworm (spring and fall), Gypsy moth, Tent caterpillar (eastern and forest)		
Larch	Sawflies (open feeders: redheaded pine sawfly)		
Linden	Aphid, Bagworm, Cankerworm (spring and fall), Fall webworm, Tussock moth, Yellownecked caterpillar	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.
Locust	Leafminer		
Poplar	Aphid, Fall webworm, Gypsy moth, Poplar tentmaker, Tent caterpillar (eastern and forest), Tussock moth		

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
Rhododendron	Lace bug	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.
Silver maple	Cankerworm (spring and fall)		
Slippery elm	Casebearers		
Spirea	Aphid, Obliquebanded leafroller		
Staghorn sumac	Obliquebanded leafroller		
Sumac	Psyllids		
Sweet gum	Bagworm		
Sycamore	Aphid, Bagworm, Casebearers, Fall webworm, Lace bug, Obliquebanded leafroller, Tussock moth		
Shade trees, Ornamentals, Shelterbeds (such as Cotoneaster, Willow, Mountain ash and Pincherry)	Pear slug (pear sawfly larvae)		
Wild cherry	Tussock moth		
Arborvitae	Aphid, Bagworm, Spider mites (except two-spotted)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control spider mites, spray 2 times, 7 to 10 days apart.
Aster	Aphid, Armyworm (fall, beet and yellowstriped), Flower thrips, Leafminer	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
			To control flower thrips, spray 2 times, 7 to 10 days apart.
Azalea	Aphid, Greenhouse whitefly, Lace bug, Mealybug, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium), Spider mites (except two-spotted)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control greenhouse whitefly, mealybug, scale insects and spider mites (other than two-spotted), spray 2 times, 7 to 10 days apart.
Barberry, Ligustrum, Mahonia	Aphid, Greenhouse whitefly	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control greenhouse whitefly, spray 2 times, 7 to 10 days apart.
Boxwood, Euonymous, Hibiscus, Nandina, Rose of Sharon	Aphid, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control scale insects, spray 2 times, 7 to 10 days apart.
Calendula	Aphid, Armyworm (fall, beet and yellowstriped), Flower thrips, Potato leafhopper, Tobacco budworm	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control flower thrips, spray 2 times, 7 to 10 days apart.
Cotoneaster	Aphid, Lace bug, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control scale insects, spray 2 times, 7 to 10 days apart.

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
Cypress	Bagworm, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium), Spider mites	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control scale insects and spider mites, spray 2 times, 7 to 10 days apart.
Dahlia	Armyworm (fall, beet and yellowstriped), Potato leafhopper, Two-spotted spider mite	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control two-spotted spider mites, spray 2 times, 7 to 10 days apart.
Elm (Chinese or Siberian)	Elm leaf beetle (larvae), Tussock moth, Armyworm (fall, beet and yellowstriped) on Chinese elm only, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium) on Chinese Elm only	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control scale insects, spray 2 times, 7 to 10 days apart.
Geranium	Tobacco budworm, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium)		
Hackberry	Psyllids, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium)		
Hemlock	Gypsy moth, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion,	Mist blower: 1312 g/1000 L  Hydraulic sprayer:	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
	lecanium), Spider mites (except two-spotted)	637 g/1000 L	only, if re-infestation occurs.  To control scale insects and spider mites (other than two-spotted spider mite), spray 2 times, 7 to 10 days apart.
Holly	Leafminer, Obliquebanded leafroller, Psyllids, Tussock moth, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium), Spider mites (except two-spotted)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control scale insects and spider mites (other than two-spotted spider mite), spray 2 times, 7 to 10 days apart.
Hydrangea, Primrose	Aphid, Two-spotted mite	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control two-spotted spider mites, spray 2 times, 7 to 10 days apart.
Ivy	Aphid, Mealybug	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control mealybugs, spray 2 times, 7 to 10 days apart.
Juniper	Bagworm, Meadow spittlebug, Spider mites (except two-spotted)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To spider mites (other than two-spotted spider mite), spray 2 times, 7 to 10 days apart.
Lilac	Aphid, Leafminer, Scale insect (crawlers: cottony maple,	Mist blower: 1312 g/1000 L  Hydraulic	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
	hemlock, oystershell, cottony cushion, lecanium)	sprayer: 637 g/1000 L	noticed. Repeat application once only, if re-infestation occurs.  To control scale insects and spider mites (other than two-spotted spider mite), spray 2 times, 7 to 10 days apart.
Marigold	Flower thrips, Leafminer, Sunflower moth, Two-spotted spider mite	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control flower thrips and two-spotted spider mites, spray 2 times, 7 to 10 days apart.
Petunia	Armyworm (fall, beet and yellowstriped), Flower thrips, Tobacco budworm	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control flower thrips, spray 2 times, 7 to 10 days apart.
Pyracantha	Aphid, Lace bug, Yellownecked caterpillar, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control scale insects, spray 2 times, 7 to 10 days apart.
Rose (field grown)	Aphid, Armyworm (fall, beet and yellowstriped), Flower thrips, Meadow spittlebug, Obliquebanded leafroller, Rose midge, Tussock moth, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium), Spider mites	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control flower thrips, scale insects and spider mites, spray 2 times, 7 to 10 days apart.

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
Salvia	Aphid, Flower thrips, Greenhouse whitefly	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control flower thrips and greenhouse whitefly, spray 2 times, 7 to 10 days apart.
Snapdragon	Aphid, Armyworm (fall, beet and yellowstriped), Flower thrips, Tobacco budworm	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control flower thrips, spray 2 times, 7 to 10 days apart.
Viburnum	Aphid, Greenhouse whitefly, Two-spotted spider mite	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control greenhouse whitefly and two-spotted spider mite, spray 2 times, 7 to 10 days apart.
Willow	Aphid, Bagworm, Willow leaf beetle (larvae), Fall webworm, Gypsy moth, Poplar tentmaker, Psyllids, Sawflies (open feeders: dusky birch), Tent caterpillar (eastern and forest), Tussock moth, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control scale insects, spray 2 times, 7 to 10 days apart.
Wisteria	Aphid, Mealybugs, Scale insect (crawlers:	Mist blower: 1312 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are

<b>SITE</b>	<b>PESTS</b>	<b>RATE (a.i.)</b>	<b>APPLICATION INSTRUCTIONS AND LIMITATIONS</b>
	cottony maple, hemlock, oystershell, cottony cushion, lecanium)	Hydraulic sprayer: 637 g/1000 L	present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control mealybugs and scale insects, spray 2 times, 7 to 10 days apart.
Zinnia	Flower thrips, Greenhouse whitefly, Lace bug, Leafminer	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control flower thrips and greenhouse whitefly, spray 2 times, 7 to 10 days apart.

<b>SITE</b>	<b>PESTS</b>	<b>RATE (a.i.)</b>	<b>APPLICATION INSTRUCTIONS AND LIMITATIONS</b>
Birch	Aphid, Cankerworm (spring and fall), Fall webworm, Gypsy moth, Leafminer, Sawflies (open feeders: dusky birch), Tent caterpillar (eastern and forest), Tussock moth, Yellownecked caterpillar	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.
Fir	Aphid, Tussock moth, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium), Fall webworm, Spider mites (except two-spotted)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control scale insects and spider mites (except two-spotted spider mite), spray 2 times, 7 to 10 days apart.
Flowering cherry	Obliquebanded leafroller, Tent caterpillar (eastern and forest)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
Maple	Aphid, Bagworm, Cankerworm (spring and fall), Gypsy moth, Potato leafhopper, Tent caterpillar (eastern and forest), Tussock moth, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control scale insects, spray 2 times, 7 to 10 days apart.
Oak	Aphid, Cankerworm (spring and fall), Fall webworm, Gypsy moth, Lace bug, Leafminer, Obliquebanded leafroller, Oak leaf shredder (white and red oak only), Tent caterpillar (eastern and forest), Tussock moth, Yellownecked caterpillar, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium), Spider mites (except two-spotted)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control scale insects and spider mites (other than two-spotted spider mite), spray 2 times, 7 to 10 days apart.
Pine	Bagworm, Gypsy moth, Nantucket pine tip moth, Sawflies (open feeders: redheaded pine, European pine sawfly), Tussock moth, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium), Spider mites (except two-spotted)	Mist blower: 1312 g/1000 L  Hydraulic sprayer: 637 g/1000 L	Mix thoroughly and spray entire plant covering both sides of foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control scale insects and spider mites (other than two-spotted spider mite), spray 2 times, 7 to 10 days apart.
Spruce	Gypsy moth, Leafminer,	Mist blower: 1312 g/1000 L	Mix thoroughly and spray entire plant covering both sides of

SITE	PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
	Sawflies (open feeders: redheaded pine, yellowheaded spruce sawfly), Tussock moth, Spider mites (except two-spotted)	Hydraulic sprayer: 637 g/1000 L	foliage. Spray when insects are present or feeding injury is first noticed. Repeat application once only, if re-infestation occurs.  To control spider mites (other than two-spotted spider mite), spray 2 times, 7 to 10 days apart.

### GREENHOUSE USE ON ROSES

PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
Aphid, Flower thrips, Omnivorous leafroller, Rose midge, Whitefly	Hydraulic sprayer: 637 g/1000 L	Spray to wet foliage completely.
<b>Note:</b> <ul style="list-style-type: none"> <li>DO NOT apply more than 0.83 kg a.i./ha.</li> <li>DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 1 day.</li> </ul>		

### CHRISTMAS TREE PLANTATIONS, FARM WOODLOTS, TREE NURSERIES, SHELTER BELTS, RIGHT OF WAYS, MUNICIPAL PARKS (excluding National and Provincial Parks)

PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
Aphid, Armyworm (fall, beet and yellowstriped), Bagworm, Cankermoth (fall and spring), Casebearer, Fall webworm, Flower thrips, Gladiolous thrips, Greenhouse whitefly, Gypsy moth, Lace bug, Leaf beetle larvae (elm and willow), Leafminer, Meadow spittlebug, Mealybug, Nantucket pine tip moth, Oak leafshredder, Obliquebanded leafroller, Psyllid, Pear slug (pear sawfly larvae), Poplar tentmaker, Potato leafhopper,	Hydraulic sprayer: 637 g/1000 L  Mist blower: 1312 g/1000 L	Consult Canadian Forestry Service office or provincial forestry authority for information on timing of sprays and method of application.  DO NOT apply to American elm, flowering crabapple, sugar maple, cottonwood, redbud and weigelia, as foliage injury may occur. Before treating rare or unusual varieties, it is advisable to test it on a few plants before spraying large numbers.  Clean sprayer after use by flushing with water. Do not use household bleach or cleaning agent.

PESTS	RATE (a.i.)	APPLICATION INSTRUCTIONS AND LIMITATIONS
Rose midge, Scale insect (crawlers: cottony maple, hemlock, oystershell, cottony cushion, lecanium), Sawflies (open feeders: dusky birch, blakheaded ash, redheaded pine, European pine, yellowheaded spruce sawfly), Spider mites, Sunflower moth, Tent caterpillars (eastern and forest), Tobacco budworm, Tussock moth, Yellownecked caterpillar		
<b>Note:</b> <ul style="list-style-type: none"> <li>• DO NOT apply more than 1.31 kg a.i./ha</li> <li>• Re-entry interval (REI) for trees: 3 days (workers re-entering this crop and conducting activities that involve significant foliar contact must wear gloves and cotton coveralls for 1 week after the REI.)</li> </ul>		

**FOR USE IN ORNAMENTAL DECIDUOUS AND CONIFEROUS TREES FOR CONTROL OF SAP SUCKING INSECTS, LEAF FEEDING INSECTS, AND MITES ON NON-FLOWERING CONIFERS, PINE-LIKE CONIFERS AND YEW-LIKE CONIFERS**

**NOTICE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR ORNAMENTAL DECIDUOUS AND CONIFEROUS TREES:**

The DIRECTIONS FOR USE for this product for the use in Ornamental Deciduous and Coniferous Trees were developed by persons other than Arysta LifeScience North America, LLC and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. **ARYSTA LIFESCIENCE NORTH AMERICA, LLC MAKES NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO PERFORMANCE (EFFICACY) OR CROP TOLERANCE (PHYTOTOXICITY) CLAIMS FOR THIS PRODUCT WHEN USED ON ORNAMENTAL DECIDUOUS AND CONIFEROUS TREES.**

Accordingly, the Buyer and User assume all risks related to performance and crop tolerance arising, and agree to hold Arysta LifeScience North America, LLC harmless from any claims based on efficacy or phytotoxicity in connection with the use(s) described below.

**ORNAMENTAL DECIDUOUS AND CONIFEROUS TREES**

ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE can be used to inject ornamental deciduous and coniferous trees in residential areas, rural lands, farms, business and office complexes, shopping complexes, multi-family residential complexes, golf courses, airports, cemeteries, parks, ravines, playgrounds, and athletic

fields to control sap sucking insects (such as scale insects, aphids, psyllids, and plant bugs) and leaf feeding insects (such as caterpillars, sawflies, and leaf beetles) and mites.

- Not for use on trees used to produce fruits, nuts, or syrup for consumption.
- Applications are not recommended for trees with a Diameter at Breast Height (DBH) of 7.5 cm or less.
- Do not apply more than one application per tree within 24 months.

All mixing should be carried out by a certified applicator or under the supervision of a certified applicator. Personal protective equipment for mixing and loading should include eye protection, respirator, coveralls, neoprene apron, nitrile gloves and rubber boots. Personal protective equipment for injections should include eye protection, coveralls, nitrile gloves and rubber boots.

#### **Mix Rate:**

Pre-mix ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE at a ratio of 100 grams per 35 millilitres, or 286 grams per 100 mL, of water for use with the following injection application methods and rates.

Apply 0.3 mL for each 2.5 centimetres Diameter at Breast Height (DBH) of tree. Determine the diameter of tree being injected at breast height. Multiply diameter (cm) of tree x 0.3 mL to calculate the total amount of ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE required. Inject ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE as indicated below or with BioForest Inc. EcoJect System, a refillable injection tool. Refer to EcoJect user manual and the APPLICATION METHOD TO ORNAMENTAL DECIDUOUS AND CONIFEROUS TREES, below, for instruction on injection hole drilling, how to determine the number of injection holes and how many refillable canisters should be used per tree.

Should a less viscous (more flow) mix be required for compatibility with the injection method (i.e. pipette), pre-mix ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE at a ratio of 107 grams per 50 mL of water and apply 0.4 mL for each 2.5 centimetres Diameter at Breast Height (DBH) of tree.

### **APPLICATION METHOD TO ORNAMENTAL DECIDUOUS AND CONIFEROUS TREES**

#### **Smaller Trees (pipette method):**

1. Pre-drill the tree with the number of holes required to accommodate the total amount of ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE to be applied. Use the countersink bit provided or drill to the depth indicated on the 5/32 bit. Each hole will hold 1 mL of product. Space the holes equally around the tree circumference. Holes should be drilled at a 45-degree angle toward the ground and placed towards the base of the tree, just above the root flare. Holes only need to be

drilled to the depth of the countersink bit or the depth mark on the 5/32 bit. This will ensure sufficient depth into the sapwood and create a reservoir to a volume of 1 mL.

2. Pre-load the provided pipette with the total amount of ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE to be applied. If the amount of ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE to be applied exceeds the volume of the pipette, fill the pipette to its complete volume and subtract this from the amount of ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE to be applied. Fill the pipette with the remaining amount to be applied to continue the application. Repeat if necessary. If using a 1mL pipette, fill to the complete volume of the pipette for application to each hole.
3. Insert the pipette nozzle just into the reservoir opening (do not push the nozzle into the hole to occupy the reservoir volume) and depress the pipette pump. Each activation of the pipette pump applies to 1 mL of product into the reservoir.
4. Following each application of ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE, seal the reservoir hole with beeswax.

#### **Smaller Trees (syringe method):**

1. Pre-drill the tree with the number of holes required to accommodate the total amount of ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE to be applied. Use the countersink bit provided or drill to the depth indicated on the 5/32 bit. Each hole will hold 1 mL of product. Space the holes equally around the tree circumference. Holes should be drilled at a 45-degree angle toward the ground and placed towards the base of the tree, just above the root flare. Holes only need to be drilled to the depth of the countersink bit or the depth mark on the 5/32 bit. This will ensure sufficient depth into the sapwood and create a reservoir to a volume of 1 mL.
2. Use a catheter tip to avoid punctures and injuries. Pre-load the syringe to capacity or with the total amount of ORTHENE 75% SOLUBLE POWDER SYSTEMIC to be applied.
3. Insert the catheter tip of the syringe just into the reservoir opening (do not push the entire tip into the hole to occupy the reservoir volume) and depress the syringe plunger while noting the plunger movement along the milliliter graduations. Depress the plunger only to a distance equivalent to 1 mL graduation as indicated on the syringe barrel. This will apply 1 mL of product into the reservoir.
4. Repeat step 3 for each hole drilled in the tree and seal the reservoir hole with beeswax following each application.

#### **Larger Trees (EcoJect System):**

1. Pre-drill the tree with the number of holes required to accommodate the total amount of ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE to be applied. Each hole will receive 4 mL of product; therefore, dividing the total amount of

ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE to be applied by 4 will result in the number of holes required. Use the 5/32" drill bit provided and drill only to the depth indicated on the bit. Space the holes equally around the tree circumference. Holes may be drilled straight into the tree (90 degrees) and placed towards the base of the tree, just above the root flare.

2. Force the EcoJect nozzle into the hole (tap with a hammer, if necessary) in order to secure a seal between the EcoJect nozzle and the tree. Secure the filled EcoJect canister to the nozzle. This will activate the pump mechanism in the canister and cause 4 mL of ORTHENE 75% SOLUBLE POWDER SYSTEMIC INSECTICIDE to enter the hole.
3. Remove the EcoJect nozzle and canister together from the hole and seal the hole with beeswax.
4. Repeat steps 2 and 3 for each hole in the tree.

\*\*\*\*\*

This label transcript service is offered by the Pest Management Regulatory Agency to provide efficient searching for label information. This service and this information do not replace the official hard-copy label. The PMRA does not provide any guarantee or assurance that the information obtained through this service is accurate, current or correct, and is therefore not liable for any loss resulting, directly or indirectly, from reliance upon this service.