

74578-3

03-09-2012

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 09 2012

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

Christina Griffin, Agent  
Arborjet, Inc.  
c/o Delta Analytical Corp.  
12510 Prosperity Dr. Suite 160  
Silver Spring, MD 20904

Subject: Phospho-jet  
EPA Registration No. 74578-3  
Label Amendment to amend the directions for use  
Decision # 457154  
Application Dated: October 27, 2011

Dear Mrs. Griffin:

The amendment referred to above, submitted in connection with registration under FIFRA section 3(c)(5), is **acceptable** provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
2. Submit three (3) copies of your final printed labeling before you release the product for shipment. Final printed labeling means the label or labeling of the product when distributed or sold. Clearly legible reproductions or photo reductions will be accepted for unusual labels, such as those silk-screened directly onto glass or metal containers or large bags or drum labels.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(b). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

If you have any questions contact Ms. Menyon Adams at 703-347-8496 or by email at: [adams.menyon@epa.gov](mailto:adams.menyon@epa.gov). A stamped copy of the label is enclosed for your records.

Sincerely,

A handwritten signature in black ink, appearing to read "Linda A. Hollis".

Linda A. Hollis, Chief  
Biochemical Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)

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Master label including Sub-label A – Commercial Agricultural Uses and  
Sub-label B – Residential Uses

**ACCEPTED**

Sub-label A – Commercial Agricultural Uses

**MAR 09 2012**

Under the Federal Insecticide, Fungicide,  
and Rodenticide Act, as amended, for  
the pesticide registered under  
EPA Reg. No. 74578-3

[company logo]

# PHOSPHO-jet

[For Use Against Sudden Oak Death] [in California]  
[Systemic Fungicide] [Arboriculture in Motion] [Diverse Pest Control]  
[Systemic Fungicide for Micro-Infusion]

Systemic fungicide for the suppression of [various plant diseases including root rot in avocado and citrus, bud rot and nut fall in coconut, black spot, scab, fire blight in apple, anthracnose in mango, sycamore, and dogwood,] [Phytophthora (causative of Sudden Oak Death) in oak,] [and for effective control of Phytophthora and Pythium diseases associated with stem and Canker Blight, Beech Decline, and general tree declines in landscapes.]

ACTIVE INGREDIENTS: Mono- and di-potassium salts of Phosphorous Acid .....	45.8%
OTHER INGREDIENTS: .....	54.2%
TOTAL .....	100.0%

Contains: 5.17lbs/gallon of the active ingredients, mono- and di-potassium salts of Phosphorous acid  
Equivalent to 3.35 lbs Phosphorous acid/gallon

EPA Reg. No. 74578-3  
EPA Est. No. 74578-MA-001

Manufactured for:  
ARBORJET, Inc.  
99 Blueberry Hill Road  
Woburn, MA 01801  
(781) 721-0795

Net Contents  
[1 Quart], [1 Gallon], [5 gallons], [20 gallons], [55 gallons]  
[Product label or container must bear a Batch Code]

## KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
IF SWALLOWED:	<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 do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
IF IN EYES:	<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 a doctor for treatment advice.</li> </ul>
IF ON SKIN OR CLOTHING:	<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 a doctor for treatment advice.</li> </ul>
IF INHALED:	<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, preferable mouth-to-mouth, if possible.</li> <li>• Call a poison control center or a doctor for treatment advice.</li> </ul>
Have the product container of label with you when calling a poison control center or doctor or going for treatment. You may also contact the National Poison Control Hotline at 1-800-222-1222, 24 hours a day, 7 days a week.	

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**ACCEPTED PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION.** Harmful if swallowed, inhaled or absorbed through skin. Causes moderate eye irritation. Avoid breathing vapors or spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear protective eyewear, long pants and long-sleeved shirt, waterproof gloves, shoes plus socks.

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

When handlers use closed systems, aircraft or enclosed cabs in a manner that meets the requirements listed in the worker protection standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6), the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

Users should:

- Wash hands before drinking, eating, chewing gum, using tobacco, or using the toilet.
- Remove PPE clothing 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**

**For Terrestrial uses:** Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

**DIRECTIONS FOR USE**

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

Read entire label before using this product.

Do not apply this product in any 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 State or Tribal agency responsible for pesticide registration.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Workers Protection Standard, CFR 40 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 4 hours.

PPE required for early entry to treated areas that are permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soils or water, is: coveralls, waterproof gloves, shoes plus socks, and protective eyewear.

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### NON-AGRICULTURAL USE REQUIREMENTS

The requirements of 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 treated areas without protective clothing until sprays have dried.

### GENERAL APPLICATION INSTRUCTIONS

This product is for use with the **ARBORJET TREE INJECTION SYSTEMS** or those systems that meet the label and dosage requirements. Follow manufacturer's directions for use.

#### Micro-injection Applications for use as formulated

PHOSPHO-jet may be applied undiluted by micro-injection. The PHOSPHO-jet dose rate is 5 mL per inch DBH.

#### Calculating Application Rate

The dosages and number of application sites are based on tree diameter.

To determine the application/dose rate per tree:

- 1) Measure the tree diameter in inches at chest height (54" from ground) to find the Diameter at Breast Height (DBH). (If measuring tree circumference, divide circumference by 3 to obtain the DBH in inches.)
- 2) Calculate the number of injection sites by dividing the DBH in inches by 2.
- 3) Multiply the tree DBH by the dosage rate (5 mL per inch DBH) to calculate the total dose in milliliters per tree.
- 4) Divide the total dose by the number of injection sites to determine required dosage per injection site.

**Example:** For a tree with a DBH of 12 inches (or circumference of 36 inches) and 5 mL dosage rate:

- 1)  $DBH = 12''$  (circumference  $36'' \div 3 = 12''$ )
- 2) Divide DBH of 12" by 2 = 6 injection sites.
- 3) Multiply DBH" of 12 by 5 mL = 60 mL total dose per tree.
- 4) Divide 60 mL by 6 injection sites = 10 mL per injection site to deliver the required dosage.

#### Ornamental, Forest, Conifers, and Crop Trees

**CALCULATING APPLICATION RATE AND MIXING INSTRUCTIONS** (for micro-injection; for other methods see supplemental information)

- 1) To determine the application rate, refer to Table 1. Identify plant size by determining tree diameter in inches at breast height (DBH") (measured at approximately 54" above the soil line). (If measuring tree circumference divide by 3 to obtain the DBH".)
- 2) Multiply the DBH" by the corresponding amount in the rate column to determine the application rate appropriate for plant size.
- 3) 1 part PHOSPHO-jet is diluted with 2 parts water. Determine the amount of water to be added by multiplying the ml PHOSPHO-jet (obtained in step #2 above) by 2.
- 4) Fill the tank with the water before adding PHOSPHO-jet.
- 5) Add PHOSPHO-jet slowly to the tank, close and gently agitate to mix.

**Example:** To treat a 10" DBH oak for root rot, see Table 1. Add 50 ml of PHOSPHO-jet (10" DBH x 5ml) into 100 ml (2 x 50 ml) water for a total injection volume of 150 ml. Inject 30 ml of the PHOSPHO-jet/water solution every 6" of trunk circumference as directed in Supplemental Label Arborjet Injection Procedures.

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**Table 1 PHOSPHO-jet Use and Application Rates**

Plant	Disease	Plant Size (DBH")	Rate (ml/DBH")
Ornamental & Forest Trees	Root Rot ( <i>Phytophthora</i> spp. including <i>P. ramoram</i> , <i>P. cinnamomi</i> , <i>P. palmivora</i> , <i>P. cactorum</i> ), Anthracnose, Apple scab ( <i>Venturia inaequalis</i> )	<12-23" 24-47" 48"+	5
Conifers, grown in commercial nurseries, plantations, and forest (including Christmas tree farms)	Root Rot ( <i>Phytophthora</i> spp. including <i>P. ramoram</i> , <i>P. cinnamomi</i> )		7
			9
Crop Trees	Disease	Plant Size (DBH")	Rate (ml/DBH")
Avocados	Root Rot ( <i>Phytophthora cinnamomi</i> , <i>P. citricola</i> )	<12-23" 24-47" 48"+	5
Citrus (mature trees)	Root, Foot and Collar Rot ( <i>Phytophthora</i> spp. including <i>P. nicotinae</i> , <i>P. citrophthora</i> )		7
Coconuts	Bud – Nut Fall ( <i>Phytophthora palmivora</i> )		9
Apples, Pears, Loquats, Quince	Fire Blight ( <i>Erwinia amylovora</i> ); Apple Scab ( <i>Venturia inaequalis</i> ); Black Spot ( <i>Diplocarpon rosae</i> )		
Tree nuts such as Almonds, Walnuts	Root and Collar Rot ( <i>Phytophthora</i> spp.)		

**Sudden Oak Death**

Use PHOSPHO-jet for effective control of *Phytophthora* (Sudden Oak Death, *Phytophthora ramoram*), in landscapes, plantation trees, golf courses, forests and parks. Apply PHOSPHO-jet to Oaks (Black, Canyon, Coast, Live, Shreve) and Tan Oak.

Make applications before disease development and in conjunction with good cultural management practices. Do not exceed indicated application rates or apply more frequently than stated on label or tree injury may occur. Do not apply to trees that are heat or moisture stressed.

**PHOSPHO-jet Application for Oaks [in California]**

Landscape, Golf Course, Plantation, Forest, and Park Applications	Disease	Rate
Oak ( <i>Quercus</i> spp.) including Black, Canyon, Coast, Live, Shreve; Tan Oak	Sudden oak death <i>Phytophthora ramoram</i>	10 ml per 6 inch circumference (3.5 ml PHOSPHO-jet and 6.5 ml water)

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## CALCULATING APPLICATION RATE AND MIXING INSTRUCTIONS

The dilution rate is 1 part PHOSPHO-jet to 2 parts water. One injection of 10 ml of the PHOSPHO-jet /water solution is used per 6 inches of trunk circumference measured at 4 feet above the soil line.

In order to determine the application rate per tree:

- 1) Measure the trunk circumference 4 feet above the soil line.
- 2) Divide the number of inches of circumference by 6 to determine the number of injection sites.
- 3) Each 10 ml solution injection will have 3.5 ml PHOSPHO-jet and 6.5 ml water.
- 4) Multiply the number of injection sites by 3.5 to determine the amount of PHOSPHO-jet needed.
- 5) Multiply the number of injection sites by 6.5 to determine the amount of water needed.
- 6) Fill the tank with the water before adding PHOSPHO-jet.
- 7) Add PHOSPHO-jet slowly to the tank to reach the total amount of solution desired. (Total volume should equal number of injection sites x 10 ml.) Close and gently agitate to mix.

**Example:** A trunk has a circumference of 48". Dividing by 6 = 8 injection sites. Multiplying 8 by 3.5 = 28 ml PHOSPHO-jet. Multiplying 8 by 6.5 = 52 ml water. Therefore, prepare a treatment solution with 28 ml PHOSPHO-jet added to 52 ml of water for a total volume of 80 ml (8 injection sites of 10 ml each).

**For multiple or asymmetrical trunks,** measure the tree canopy at the drip line. The application rate is one 10ml injection per yard of canopy diameter.

**Example:** If the canopy diameter is 18 feet (6 yards), there will be 6 injection sites. Prepare a treatment solution with 21 ml PHOSPHO-jet (6 x 3.5 ml) added to 39 ml of water (6 x 6.5 ml) for a total volume of 60 ml (6 injection sites of 10 ml each).

Note: 324 ml (11 fl. oz) PHOSPHO-jet + 624 ml (21 fl. oz) water makes one quart of solution.

## Arborjet Injection Procedures

### General Guidelines:

Measure the tree **diameter** at chest height (54" from ground) in inches to find the Diameter at Breast Height (DBH). If measuring circumference, divide this number by three to determine Diameter at Breast Height (DBH).

Make applications to trees in full leaf. Alternatively, apply prior to bud break in spring or after leaf senescence (coloration or drop) in fall. Moist soil conditions and moderate temperatures (i.e., >40 and <90 °F) favor transpiration and are optimal for injection uptake.

Drill injection sites into the trunk or root flare (i.e., buttress) area, generally 6-8" from the soil level and 6" apart around the circumference of the tree.

For *Phytophthora* (Sudden Oak Death, *Phytophthora ramorum*), inject every 6 inches around trunk circumference measured at 4 feet above the soil line.

### Basic Arborjet Injection Procedures:

Drill 5/8" deep into the sapwood using the appropriate sized drill bit (7/32", 9/32" or 3/8" dia.). Drill at a 90 degree angle to the stem (i.e., straight into the sapwood). Avoid drilling into dead, dying or diseased tissue, or tissue with visible injury or cracks. Use clean and sharp drill bits. Initially apply no pressure to the drill; the bit will naturally cut through the bark. It will stop penetrating when it meets the harder sapwood. Next apply pressure to the drill to cut 5/8" into the sapwood.

Insert an Arborplug, and tap in using the set tool and mallet. Use the #3 (9/32" d) or #4 (3/8" d) Arborplug in hardwoods; in conifers, use the #4 Arborplug. Using the injection needle, pierce the internal septum to start the injection process. Shut off and remove the injection needle upon completion.

### Resinous Conifers

In resinous conifers, such as pine and spruce insert the injection needle and open to start liquid flow immediately after inserting the Arborplug into the sapwood. A delay may reduce uptake due to resin flow.

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## Monocots

Inject into the trunk into lignified (hardened, woody) tissues typically within 2-3 ft. of the soil. Drill into the stem 4" deep using the 3/8" drill bit. Insert a #4 Arborplug™. Inject through the Arborplug. Only one injection site is needed.

## WHEN TO TREAT / TIMING OF STEM INJECTION APPLICATIONS

### Tree Health and Growing Conditions:

Best results are obtained when treatments are applied prior to infection. Treat trees when foliar symptoms (e.g., spot, defoliation, dieback) affect less than 10% of the canopy. Anticipate early season foliar infections, by treating prior to bud break (for example, apple scab).

*Phytophthora* root rot occurs most frequently in poorly drained and compacted soils. Susceptible species are at risk of infection following heavy precipitation or irrigation. Trees growing in low lying areas are also at risk of disease. Treat as early as possible in the infection cycle for best tree response.

For optimal uptake, apply when soil is moist, soil temperatures are above 45°F, ambient temperatures are between 40° to 90°F, and during the 24 hour period when transpiration is greatest, typically before 2:00 PM. Applications to drought or heat stressed trees may result in injury to tree tissue, poor treatment and subsequent control. Watering the trees prior to injection may enhance the uptake of PHOSPHO-jet.

## COMPATIBILITY

PHOSPHO-jet is compatible with most products used in agriculture. However, individual crop sensitivity to these mixtures may vary. Mixtures of PHOSPHO-jet with copper products are not always compatible or cause phytotoxicity to some plants. If these combinations or others have not been used previously, do not tank mix without first testing the compatibility of the tank mix. Do not apply tank mixture without first assessing its safety to the crop (phytotoxicity). Tank mix PHOSPHO-jet with fertilizers only if crop safety has been established and the PHOSPHO-jet use rates are followed.

Due to PHOSPHO-jet's acidic nature, do not use acidifying-type compatibility agents. If adjuvants are used, test them before use to confirm compatibility with PHOSPHO-jet.

Use a jar test to confirm compatibility with PHOSPHO-jet. In a clean jar using the same water source that is normally used to fill spray tank, add the appropriate quantity of water and mix thoroughly. Let stand for 3 minutes. If mixture remains in solution or is remixed readily, the tank mixture is compatible.

Spray the solution that results from the above compatibility test onto a few plants until foliage is visibly wet and inspect for visual effects of phytotoxicity (leaf burn) 3-7 days later.

## RESTRICTIONS

- ✓ Do not inject trees more than once annually unless otherwise indicated
- ✓ Not recommended for newly planted (non-established) trees.
- ✓ DO NOT inject drought stressed trees.
- ✓ Do not treat trees that are damaged by herbicides.
- ✓ Do not inject trees within two weeks of any other spray or soil chemical treatment.

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## STORAGE AND DISPOSAL

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

### PESTICIDE STORAGE:

Keep this product in containers stored upright and secured with the original closure. Do not store this product near any heat source. Do not store near any strong oxidants. If transfer to another container becomes necessary, ensure that the container is clearly labeled, the container is a type suitable for the product, and is clean and free of other materials. Keep from freezing.

### PESTICIDE DISPOSAL:

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

### CONTAINER HANDLING:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

*[For containers small enough to shake ( $\leq 5$  gallons)]* Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  full with water and recap. Shake for 10 seconds. Pour rinsates into application equipment or a mix tank or store rinsates for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

*[For containers too large to shake ( $> 5$  gallons or 50 lbs.)]* Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Offer for recycling, if available.

## NOTICE OF WARRANTY

ARBORJET, Inc makes no warranty of fitness of this product for any other purpose, beyond its uses under normal conditions in keeping with the statements made on this label.



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Sub-label B – Residential Uses

[company logo]

# PHOSPHO-jet

[For Use Against Sudden Oak Death] [in California]  
[Systemic Fungicide] [Arboriculture in Motion] [Diverse Pest Control]  
[Systemic Fungicide for Micro-Infusion]

Systemic fungicide for the suppression of [various plant diseases including root rot in avocado and citrus, bud rot and nut fall in coconut, black spot, scab, fire blight in apple, anthracnose in mango, sycamore, and dogwood,] [Phytophthora (causative of Sudden Oak Death) in oak,][and for effective control of Phytophthora and Pythium diseases associated with stem and Canker Blight, Beech Decline, and general tree declines in landscapes.]

ACTIVE INGREDIENTS: Mono-and di-potassium salts of Phosphorous Acid .....	45.8%
OTHER INGREDIENTS: .....	54.2%
TOTAL .....	100.0%

Contains: 5.17lbs/gallon of the active ingredients, mono- and di-potassium salts of Phosphorous acid  
Equivalent to 3.35 lbs Phosphorous acid/gallon

EPA Reg. No. 74578-3  
EPA Est. No. 74578-MA-001

Manufactured by:  
ARBORJET, Inc.  
99 Blueberry Hill Road  
Woburn, MA 01801  
(781) 721-0795

Net Contents:

- 1 Quart
- 1 Gallon
- 5 Gallons

[Product label or container must bear a Batch Code]

## KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
IF SWALLOWED:	<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 do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
IF IN EYES:	<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 a doctor for treatment advice.</li> </ul>
IF ON SKIN OR CLOTHING:	<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 a doctor for treatment advice.</li> </ul>
IF INHALED:	<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, preferable mouth-to-mouth, if possible.</li> <li>• Call a poison control center or a doctor for treatment advice.</li> </ul>
Have the product container of label with you when calling a poison control center or doctor or going for treatment. You may also contact the National Poison Control Hotline at 1-800-222-1222, 24 hours a day, 7 days a week.	

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## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION.** Harmful if swallowed, inhaled or absorbed through skin. Causes moderate eye irritation. Avoid breathing vapors or spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

### ENVIRONMENTAL HAZARDS

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

### DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label before using this product. For use in home gardens and ornamentals.

### GENERAL APPLICATION INSTRUCTIONS

This product is for use with the **ARBORJET TREE INJECTION SYSTEMS** or those systems that meet the label and dosage requirements. Follow manufacturer's directions for use.

#### Micro-injection Applications for use as formulated

PHOSPHO-jet may be applied undiluted by micro-injection. The PHOSPHO-jet dose rate is 5 mL per inch DBH.

#### Calculating Application Rate

The dosages and number of application sites are based on tree diameter.

To determine the application/dose rate per tree:

- 5) Measure the tree diameter in inches at chest height (54" from ground) to find the Diameter at Breast Height (DBH). (If measuring tree circumference, divide circumference by 3 to obtain the DBH in inches.)
- 6) Calculate the number of injection sites by dividing the DBH in inches by 2.
- 7) Multiply the tree DBH by the dosage rate (5 mL per inch DBH) to calculate the total dose in milliliters per tree.
- 8) Divide the total dose by the number of injection sites to determine required dosage per injection site.

**Example:** For a tree with a DBH of 12 inches (or circumference of 36 inches) and 5 mL dosage rate:

- 5) DBH = 12" (circumference 36" ÷ 3 = 12")
- 6) Divide DBH of 12" by 2 = 6 injection sites.
- 7) Multiply DBH of 12 by 5 mL = 60 mL total dose per tree.
- 8) Divide 60 mL by 6 injection sites = 10 mL per injection site to deliver the required dosage.

#### Ornamental, Conifers, and Fruit Trees

#### CALCULATING APPLICATION RATE AND MIXING INSTRUCTIONS

- 1) To determine the application rate, refer to Table 1. Identify plant size by determining tree diameter in inches at breast height (DBH") (measured at approximately 54" above the soil line). (If measuring tree circumference divide by 3 to obtain the DBH".)
- 2) Multiply the DBH" by the corresponding amount in the rate column to determine the application rate appropriate for plant size.
- 3) 1 part PHOSPHO-jet is diluted with 2 parts water. Determine the amount of water to be added by multiplying the ml PHOSPHO-jet (obtained in step #2 above) by 2.
- 4) Fill the tank with the water before adding PHOSPHO-jet.
- 5) Add PHOSPHO-jet slowly to the tank, close and gently agitate to mix.

**Example:** To treat a 10" DBH oak for root rot, see Table 1. Add 50 ml of PHOSPHO-jet (10" DBH x 5ml) into 100 ml (2 x 50 ml) water for a total injection volume of 150 ml. Inject 30 ml of the PHOSPHO-jet/water solution every 6" of trunk circumference as directed in Supplemental Label Arborjet Injection Procedures.

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**Table 1 PHOSPHO-jet Use and Application Rates**

Plant	Disease	Plant Size (DBH")	Rate (ml/DBH")
Ornamental & Forest Trees	Root Rot ( <i>Phytophthora</i> spp. including <i>P. ramoram</i> , <i>P. cinnamomi</i> , <i>P. palmivora</i> , <i>P. cactorum</i> ), Anthracnose, Apple scab ( <i>Venturia inaequalis</i> )	<12-23" 24-47" 48"+	5
Conifers, grown in commercial nurseries, plantations, and forest (including Christmas tree farms)	Root Rot ( <i>Phytophthora</i> spp. including <i>P. ramoram</i> , <i>P. cinnamomi</i> )		7
			9
Crop Trees	Disease	Plant Size (DBH")	Rate (ml/DBH")
Avocados	Root Rot ( <i>Phytophthora cinnamomi</i> , <i>P. citricola</i> )	<12-23" 24-47" 48"+	5
Citrus (mature trees)	Root, Foot and Collar Rot ( <i>Phytophthora</i> spp. including <i>P. nicotinae</i> , <i>P. citrophthora</i> )		7
Coconuts	Bud – Nut Fall ( <i>Phytophthora palmivora</i> )		9
Apples, Pears, Loquats, Quince	Fire Blight ( <i>Erwinia amylovora</i> ); Apple Scab ( <i>Venturia inaequalis</i> ); Black Spot ( <i>Diplocarpon rosae</i> )		
Tree nuts such as Almonds, Walnuts	Root and Collar Rot ( <i>Phytophthora</i> spp.)		

**Sudden Oak Death**

Use PHOSPHO-jet for effective control of *Phytophthora* (Sudden Oak Death, *Phytophthora ramoram*), in landscapes. Apply PHOSPHO-jet to Oaks (Black, Canyon, Coast, Live, Shreve) and Tan Oak.

Make applications before disease development and in conjunction with good cultural management practices. Do not exceed indicated application rates or apply more frequently than stated on label or tree injury may occur. Do not apply to trees that are heat or moisture stressed.

**PHOSPHO-jet Application for Oaks [in California]**

Landscape Applications	Disease	Rate
Oak ( <i>Quercus</i> spp.) including Black, Canyon, Coast, Live, Shreve; Tan Oak	Sudden oak death <i>Phytophthora ramoram</i>	10 ml per 6 inch circumference (3.5 ml PHOSPHO-jet and 6.5 ml water)

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## CALCULATING APPLICATION RATE AND MIXING INSTRUCTIONS

The dilution rate is 1 part PHOSPHO-jet to 2 parts water. One injection of 10 ml of the PHOSPHO-jet /water solution is used per 6 inches of trunk circumference measured at 4 feet above the soil line.

In order to determine the application rate per tree:

- 1) Measure the trunk circumference 4 feet above the soil line.
- 2) Divide the number of inches of circumference by 6 to determine the number of injection sites.
- 3) Each 10 ml solution injection will have 3.5 ml PHOSPHO-jet and 6.5 ml water.
- 4) Multiply the number of injection sites by 3.5 to determine the amount of PHOSPHO-jet needed.
- 5) Multiply the number of injection sites by 6.5 to determine the amount of water needed.
- 6) Fill the tank with the water before adding PHOSPHO-jet.
- 7) Add PHOSPHO-jet slowly to the tank to reach the total amount of solution desired. (Total volume should equal number of injection sites x 10 ml.) Close and gently agitate to mix.

**Example:** A trunk has a circumference of 48". Dividing by 6 = 8 injection sites. Multiplying 8 by 3.5 = 28 ml PHOSPHO-jet. Multiplying 8 by 6.5 = 52 ml water. Therefore, prepare a treatment solution with 28 ml PHOSPHO-jet added to 52 ml of water for a total volume of 80 ml (8 injection sites of 10 ml each).

**For multiple or asymmetrical trunks,** measure the tree canopy at the drip line. The application rate is one 10ml injection per yard of canopy diameter.

**Example:** If the canopy diameter is 18 feet (6 yards), there will be 6 injection sites. Prepare a treatment solution with 21 ml PHOSPHO-jet (6 x 3.5 ml) added to 39 ml of water (6 x 6.5 ml) for a total volume of 60 ml (6 injection sites of 10 ml each).

Note: 324 ml (11 fl. oz) PHOSPHO-jet + 624 ml (21 fl. oz) water makes one quart of solution.

## Arborjet Injection Procedures

### General Guidelines:

Measure the tree **diameter** at chest height (54" from ground) in inches to find the Diameter at Breast Height (DBH). If measuring circumference, divide this number by three to determine Diameter at Breast Height (DBH).

Make applications to trees in full leaf. Alternatively, apply prior to bud break in spring or after leaf senescence (coloration or drop) in fall. Moist soil conditions and moderate temperatures (i.e., >40 and <90°F) favor transpiration and are optimal for injection uptake.

Drill injection sites into the trunk or root flare (i.e., buttress) area, generally 6-8" from the soil level and 6" apart around the circumference of the tree.

For *Phytophthora* (Sudden Oak Death, *Phytophthora ramorum*), inject every 6 inches around trunk circumference measured at 4 feet above the soil line.

### Basic Arborjet Injection Procedures:

Drill 5/8" deep into the sapwood using the appropriate sized drill bit (7/32", 9/32" or 3/8" dia.). Drill at a 90 degree angle to the stem (i.e., straight into the sapwood). Avoid drilling into dead, dying or diseased tissue, or tissue with visible injury or cracks. Use clean and sharp drill bits. Initially apply no pressure to the drill; the bit will naturally cut through the bark. It will stop penetrating when it meets the harder sapwood. Next apply pressure to the drill to cut 5/8" into the sapwood.

Insert an Arborplug, and tap in using the set tool and mallet. Use the #3 (9/32" d) or #4 (3/8" d) Arborplug in hardwoods; in conifers, use the #4 Arborplug. Using the injection needle, pierce the internal septum to start the injection process. Shut off and remove the injection needle upon completion.

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**Resinous Conifers** In resinous conifers, such as pine and spruce insert the injection needle and open to start liquid flow immediately after inserting the Arborplug into the sapwood. A delay may reduce uptake due to resin flow.

**Monocots**

Inject into the trunk into lignified (hardened, woody) tissues typically within 2-3 ft. of the soil. Drill into the stem 4" deep using the 3/8" drill bit. Insert a #4 Arborplug™. Inject through the Arborplug. Only one injection site is needed.

**WHEN TO TREAT / TIMING OF STEM INJECTION APPLICATIONS**

**Tree Health and Growing Conditions:**

Best results are obtained when treatments are applied prior to infection. Treat trees when foliar symptoms (e.g., spot, defoliation, dieback) affect less than 10% of the canopy. Anticipate early season foliar infections, by treating prior to bud break (for example, apple scab).

*Phytophthora* root rot occurs most frequently in poorly drained and compacted soils. Susceptible species are at risk of infection following heavy precipitation or irrigation. Trees growing in low lying areas are also at risk of disease. Treat as early as possible in the infection cycle for best tree response.

For optimal uptake, apply when soil is moist, soil temperatures are above 45°F, ambient temperatures are between 40° to 90°F, and during the 24 hour period when transpiration is greatest, typically before 2:00 PM. Applications to drought or heat stressed trees may result in injury to tree tissue, poor treatment and subsequent control. Watering the trees prior to injection may enhance the uptake of PHOSPHO-jet.

**RESTRICTIONS**

- ✓ Do not inject trees more than once annually unless otherwise indicated
- ✓ Not recommended for newly planted (non-established) trees.
- ✓ DO NOT inject drought stressed trees.
- ✓ Do not treat trees that are damaged by herbicides.
- ✓ Do not inject trees within two weeks of any other spray or soil chemical treatment.

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:**

Keep this product in containers stored upright and secured with the original closure. Do not store this product near any heat source. Do not store near any strong oxidants. If transfer to another container becomes necessary, ensure that the container is clearly labeled, the container is a type suitable for the product, and is clean and free of other materials. Keep from freezing.

**CONTAINER HANDLING:**

Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

**NOTICE OF WARRANTY**

ARBORJET, Inc makes no warranty of fitness of this product for any other purpose, beyond its uses under normal conditions in keeping with the statements made on this label.

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## Supplemental Label

### PHOSPHO-jet Application Rates for Micro-injection Devices

See product label for application rate information.

#### Air/Hydraulic Micro-Injection Application

To inject, set the primary regulator to 75 PSI, charge the Dose-Sizer by pulling back on Dose-Sizer knob after priming, and apply the specified dose equally into the preset Arborplug.

#### QUIK-jet Micro-Injection Application

To Micro-Inject, set the Arborjet Tree Micro-Injector to the 5 ml setting. Draw formulation into the injector cylinder and squeeze handle to deliver the shot. Repeat until the full dose per injection site is delivered.

### PHOSPHO-jet APPLICATION RATES for Arborjet Micro-Infusion™ (i.e., Tree I.V.) Applications

Tree Size DBH"	# injection sites	Rate mL/DBH"	Treatment Solution	
			PHOSPHO-jet mLs/tree size (avg.) (1 part)	Water (2 parts)
6-8"	4	5	35	70
9-11"	5	5	50	100
12-14"	7	5	65	130
15-17"	8	5	80	160
18-20"	10	5	95	190
21-23"	11	5	110	220
24-26"	13	7	175	350
27-29"	14	7	196	392
30-32"	16	7	217	434
33-35"	17	7	238	476
36-38"	19	7	259	518
39-41"	20	7	280	560
42-44"	22	7	301	602
45-47"	23	7	322	644
48-50"	25	9	441	882
51-53"	26	9	468	936
54-56"	28	9	495	990
57-59"	29	9	522	1044
60-62"	31	9	549	1098
63-65"	32	9	576	1152
66-68"	34	9	603	1206
69-71"	35	9	630	1260

### CLEAN-UP

**IMPORTANT!** It is critical to rinse the Arborjet Injection System thoroughly after use. Use **CLEAN-jet** or soap and water. Residues left in the device will corrode the internal components and void equipment warranty.