Systemic Insecticide for Micro-Infusion

ACTIVE INGREDIENT:
Acephate
[O,S-Dimethyl Acetyl Phosphoramidothioate] .......................................97.4%

OTHER INGREDIENTS ........................................................................ 2.6%

TOTAL ................................................................................................... 100.0%

EPA Reg. No. 74578-2 • EPA Est. No. 74578-MA-001

Net Contents: 20 Packets at 0.529 oz. (15 grams) each

PRECAUTIONARY STATEMENTS:
KeeP out oF reACH oF cHIlDren

CAUTION
See insert for additional precautions and first aid.

Arboriculture in Motion® and Micro-Infusion® are registered trademarks of Arborjet, Inc.

**DIRECTIONS FOR USE:**

It is in violation of Federal Law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or indirectly through drift. Only protected handlers may be in the area during application. For requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**IMPORTANT:** Read the entire label before use. Failure to follow label directions may result in poor control or plant injury. Failure to follow label directions may cause injury to people, animals and environment. The buyer accepts and understands that failure to follow label directions is the responsibility of the buyer.

**COMPATIBILITY:**

ACE-jet is compatible with all Arborjet fertilizers including the MICRO-jet infusible series. However, the physical compatibility of ACE-jet should be tested before use with other products.

**RESTRICTIONS:**

- Keep away from children.
- Keep away from heat and open flame.
- Do not treat trees that are moisture stressed or suffering from herbicide damage.
- Do not inject trees within two weeks of any other spray or soil chemical treatment.

**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.

**WHEN TO TREAT:**

Apply when signs of insects first appear.

**STORAGE & DISPOSAL:**

See attached leaflet for proper storage and disposal information.

**MIXING INSTRUCTIONS:**

Mix each 15 gram packet with 100mL of water. ACE-jet is designed for use ONLY with the Arborjet tree injection systems specified on this label.

- Measure the tree diameter at chest height (54” from ground) in inches to find the Diameter at Breast Height (DBH).

See insert for complete directions for use.

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**Use in Trees, Ornamentals, Forests, Seed Orchards and Tree Plantations against certain Coleopteran Pests including Cambial and Wood-boring Insects**

<table>
<thead>
<tr>
<th>CROPS</th>
<th>PESTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trees, Shrubs, Evergreens, Conifers, Christmas Tree Plantations, &amp; Palms®. In Forest Areas, including non-urban forests, tree plantations, and seed orchards, parks, rural shelter belts, rangeland trees, and woodland trees including conifers.</td>
<td>Coleoptera: Buprestid Borers (including Bronze Birch Borer and Emerald Ash Borer), Flatheaded Borers, Elm Leaf Beetle (larvae), Japanese Beetle, Leaf Beetles (larvae) (including elm and willow leaf beetles), Longhorned Borers (including Eucalyptus borer and Red Oak Borer), Root Weevil Adults (including Black Vine Weevil), White Pine Weevil.</td>
</tr>
</tbody>
</table>

**Use in Trees, Ornamentals, Forests, Seed Orchards and Tree Plantations against certain Lepidopterous larvae, Homopteran, Dipteran, Hemipteran, Hymenopteran and Thysanopteran Insects**

<table>
<thead>
<tr>
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<th>PESTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trees, Shrubs, Evergreens, Conifers, Christmas Tree Plantations, &amp; Palms®. In Forest Areas, including non-urban forests, tree plantations, and seed orchards, parks, rural shelter belts, rangeland trees, and woodland trees including conifers.</td>
<td>Chewing Insects including Lepidopterous larvae: Bagworm (Thyridopteryx ephemeraeformis), Browntail Moth, Budworms, Cankerworms (Spring and Fall), Carpenterworm (Prionoxystus robiniae), Casebearer, Clear Wing Borers (Parathrene dollii and P. tricinicta), Cottonwood Twig Borer (Gypsonoma haimbachiana), Eastern Oak Looper (Phigalia tita), Eastern Tent Caterpillar (Malacosoma americanum), Elm Spanworm (Ennomos subsignarius), Fall Cankerworm (Alsophila pometaria), Fall Webworm (Hyphantria cunea), Gypsy Moth (Lymantria dispar), Leafrollers, Linden Looper (Erannis tiliaria), Nantucket Pine Tip Moth (larvae), Oakworms (Anisota senatoria, A. virginiensis, and A. stigma), Pine Cone Worm (Dioryctria spp.), Pine Needle Miners (including Ponderosa Pine), Pine Tip Moth (Rhyacia spp.), Poplar-Tentmaker (Clastera inclusa), Spring Cankerworm (Palaecrita vernata), Forest Tent Caterpillar (Malocosoma distria), Tussock Moth, Variable Oakleaf Caterpillar (Heterocampa mantheo), Walnut Caterpillar (Datana integerrima), Winter Moth (Operophtera brumata), Whitemarked Tussock Moth (Hemercampa leucostigma), Yellownecked Caterpillar (Datana ministra), Zimmerman Pine Moths.</td>
</tr>
</tbody>
</table>

**Chewing Insects including Cambial and Wood-boring Insects:**

<table>
<thead>
<tr>
<th>CROPS</th>
<th>PESTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trees, Shrubs, Evergreens, Conifers, Christmas Tree Plantations, &amp; Palms®. In Forest Areas, including non-urban forests, tree plantations, and seed orchards, parks, rural shelter belts, rangeland trees, and woodland trees including conifers.</td>
<td>Coleoptera: Buprestid Borers (including Bronze Birch Borer and Emerald Ash Borer), Flatheaded Borers, Elm Leaf Beetle (larvae), Japanese Beetle, Leaf Beetles (larvae) (including elm and willow leaf beetles), Longhorned Borers (including Eucalyptus borer and Red Oak Borer), Root Weevil Adults (including Black Vine Weevil), White Pine Weevil.</td>
</tr>
</tbody>
</table>

**Birch Leafminer Piercing-Sucking Insects and Mites:**

<table>
<thead>
<tr>
<th>CROPS</th>
<th>PESTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trees, Shrubs, Evergreens, Conifers, Christmas Tree Plantations, &amp; Palms®. In Forest Areas, including non-urban forests, tree plantations, and seed orchards, parks, rural shelter belts, rangeland trees, and woodland trees including conifers.</td>
<td>Leafminers, Galls, Midges, Sawflies (larvae), Birch Leafminer (larvae), Aegidae, (including Hemlock Woolly Aegid, Aphids, Leafhoppers, Mealybugs, Scale Insects, White flies, Lacebugs, Plant Bugs (Lygus), Royal Palm Bugs, Boxelder Bug (Leptocoris trivittatus), Thrips, Spider Mites.</td>
</tr>
</tbody>
</table>

*Not for use in California  **For Control of Specified Borers: Application to trees already heavily infested may not prevent the eventual loss of the trees due to existing pest damage and tree stress.
Micro-Injectable and Micro-Infusible Insecticide for use with the Arborjet Injection Systems in the Management of Specific Insect Pests of Trees and Landscape Ornamentals including Conifers, Christmas Tree and Deciduous Tree Farms, Seed Orchards and Plantations, and Forest Trees.

KEEP OUT OF REACH OF CHILDREN
CAUTION
STOP! READ ENTIRE LABEL BEFORE USE.
See container leaflet for precautionary language, first aid and complete directions for use.

ACTIVE INGREDIENT:
Acephate
[O,S-Dimethyl Acetyl Phosphoramidothioate]......... 97.4%
OTHER INGREDIENTS.......................................................... 2.6%
TOTAL .................................................................................. 100.0%
EPA Reg. No. 74578-2 • EPA Est. No. 74578-MA-001
Net Contents: 0.529 oz. (15 grams)
**DIRECTIONS FOR USE**

**USER SAFETY REQUIREMENTS:** Users should 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.

**FIRST AID**

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

- **IF IN EYES:**
  - Hold eye open and rinse slowly and gently with water for 15-20 minutes.
  - Remove contact lenses, if present, after 5 minutes, then continue rinsing eye.
  - Call a poison control center or a doctor for further treatment advice.

- **IF INHALED:**
  - Move person to fresh air.
  - If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
  - Move person to fresh air.
  - Call a poison control center or a doctor for further treatment advice.

- **IF ON SKIN OR CLOTHING:**
  - Take off contaminated clothing.
  - Rinse skin immediately with plenty of water for 15-20 minutes.
  - Call a poison control center or a doctor for further treatment advice.

**APPLICATION TO ORNAMENTALS:**

- **Acephate**
- **Micro-Injectable and Micro-Infusible Insecticide for use with the Arborjet Injection Systems in the Management of Specific Insect Pests of Trees and Landscape Ornamentals including Conifers, Christmas Tree and Deciduous Tree Farms, Seed Orchards and Plantations, and Forest Trees.**

**ACTIVE INGREDIENT:**

- Acephate
- (C5-Dimethyl Acetyl Phosphoramidothioate)...

**TOTAL:**

- EPA Reg. No. 74578-2
- EPA Est. No. 74578-MA-001

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION:** Harmful if swallowed. Avoid contact with eyes, skin and clothing. Avoid breathing dust or spray mist. Wash hands thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):**

- Long-sleeved shirt and long pants
- Socks and shoes
- Chemical resistant gloves
- Protective eyewear

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

- **CAUTION:** Harmful if swallowed. Avoid contact with eyes, skin and clothing. Avoid breathing dust or spray mist. Wash hands thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**ENVIRONMENTAL HAZARDS:**

- Some materials that are chemical-resistant to this product are polyethylene and polyvinyl chloride.

**PHYSICAL OR CHEMICAL HAZARDS:**

- Socks and shoes

**IMPORTANT:** Read the entire label before use. Failure to follow label directions may result in poor control or plant injury. Failure to follow label directions may cause injury to people, animals, and environment. The buyer accepts and understands that failure to follow label directions is the responsibility of the buyer.

**DIRECTIONS FOR USE**

**APPLICATION TO ORNAMENTALS:**

**ACE-jet** is for use on trees & landscape ornamentals including conifers, Christmas tree & deciduous trees and plantations. **ACE-jet** is an infusible insecticide formulated to translocate in the plant vascular system from the microinjection site(s). To assure optimum effectiveness, this product must be placed into the active sapwood.

**DIAGNOSTIC PRIORITIES:**

- **ACE-jet** is designed for use only with the Arborjet Tree Injection Systems specified on this label.
- The specified dosages and number of application sites are based on tree diameter. 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).
- Best uptake is in trees in full leaf. Conditions that favor transpiration (i.e., sunny, breezy, low humid-ity) are optimal for injection uptake. Treat conifers in the early morning during hot, dry periods for optimum uptake. 
- Micro-Infusion of trees stressed by drought or extreme heat may result in poor uptake or foliar injury. Irrigate trees prior to treatment for optimal product uptake.

**ARBORETUM MICRO-INJECTION AND MICRO-INFUSION PROCEDURES**

In choosing between Micro-Injection and Micro-Infusion procedures, it is important to consider treatment needs. Micro-Injection applications are designed for shorter-term activity against pests as compared to Micro-Infusion. **Micro-Infusion** dosages are designed to deliver higher volumes to compensate for lower concentrations of A.I. reported in large trees and to extend the period of product activity against pests as compared to a Micro-Infusion application. For optimum distribution, inject into the sapwood tissues at the base of the tree. Work around the tree, injecting no closer than 60 inches apart.

**BASIC ARBORJET/VIPER PROCEDURE:**

- Drill through the bark then 5/8” to 1-5/8” (in hardwoods) or 1-5/8” to 2” (in conifers) into the sapwood using the appropriate sized drill bit. Brad point bits are recommended, and all drill bits should be clean and sharp. Insert the Arborplug® with the set tool and mallet tapping in to the point where the bark and sapwood meet.

**ALTERNATIVE ARBORETUM STINGER PROCEDURE:**

- Alternately insert the (7/32” drill bit) STINGER injector tip 5/8” deep into the sapwood with a hand push or by gently tapping the injector tip into predisolved hole with a mallet. Remove STINGERS upon completion of infusion process by twisting and pulling out counterclockwise. We recommend using a disinfectant such as CLEAN-jet, between trees when using the reusable STINGER tips.

**RESINOUS CONIFERS:**

- In resinous conifers, such as pine and spruce, start the injection and/or infusion process immediately after drilling or following the setting of the Arborplug® into the sapwood.
- A prolonged delay may reduce uptake efficacy due to resin flow.

**ORNAMENTAL MONOCOT:**

- Make applications low in the stem, typically within 12” of the soil. Avoid wounding the meristematic tissue located within the crown of the plant. In pah®; drill into the central vascular bundle approximately one-third into the stem, insert an Arborplug® 5/8” deep to form a seal and use the VIPER needle to complete the application. Only one site is needed.

**MIXING INSTRUCTIONS:**

- Mix each 15 gram ACE-jet packet per 100 milliliters of water. Refer to the Dosage Tables below to determine the number of packets and total volume needed to be mixed for tree application. Mix only the amount needed for immediate use. Empty the contents of the packet into the injection canister. Add the appropriate amount of water to the container. Use distilled water or acidic to neutral water (pH 5.5 – 7.0). Close the container by screwing on the lid. Next, swirl the contents THOROUGHLY until all the ACE-jet is dissolved.

**APPLICATION TO ORNAMENTALS:**

**AIR/HYDRAULIC MICRO-INJECTION APPLICATION:**

- Prepare the solution following the mixing instructions above. To Infuse, 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® ports.

**HAND-OPERATED MICRO-INJECTION APPLICATION:**

- Prepare the solution following the mixing instructions above. Close and hand pump or pressure to between 15 and 25 PSI. Charge the Dose-Sizer by pulling back on Dose-Sizer knob, then apply specified dose equally into the preset Arborplug® ports.

**QUIK-JET MICRO-INJECTION APPLICATION:**

- Prepare the solution following the mixing instructions above. To Micro-Inject, set the Arborjet Tree Micro-Injector to the 3 mL/per shot setting. Draw formulation into the injector cylinder and squeeze handle to deliver the shot. Repeat until the full dose per injection site is delivered. Refer to the Tree Micro-Infusion Dosages Table to determine the volume in milliliters to be delivered and number of injection sites to apply.

**TREE IV MICRO-INFUSION APPLICATION:**

- Prepare the solution following the mixing instructions above. Close and pressurize the contents from 25 to 60 PSI and prime the lines by opening each injector valve slowly to purge the air. Insert the VIPER needle into the Arborplug® port to begin the infusion. Remove when application is complete.

- Refer to the Micro-Infusion Dosages Table to determine the volume in milliliters to be delivered and number of application sites to apply.
or dispersible granules that do not completely dissolve is NOT recommended. Application of liquid flowables, suspension concentrates, should be tested. It is not advisable to apply pesticides via trunk injection or infusion applications that do not
Before applying any tank mixture not specifically recommended on this label, the safety to the target tree
**NOTE: The safety of all potential tank mixes on all trees listed on this label may not have been tested.
User must comply with all applicable directions, restrictions and precautions on the EPA-registered label

**For Control of Specified Borers: Application to trees already heavily infested may not prevent

1. Using a pint jar, add the proportionate amounts of the two products to 1 pint of water.

**Clean-Up

- Keep away from children.
- Keep away from heat and open flame.
- Do not treat trees that are moisture stressed or suffering from herbicide damage.
- Do not inject trees within two weeks of any other spray or soil chemical treatment.

**Storage and Disposal

- Do not contaminate food or feedstuffs. Do not store or transport near feed or food.

**NOTICE OF WARRANTY

*For Control of Specified Borers: Application to trees already heavily infested may not prevent
*Not for use in California

**Micro-Infusion Dosages**

For use with the Arborjet Tree IV

Low dose may be used in trees with small
canopies or light (or early) infestations; use the
higher dosages in trees with large canopies
or moderate to severe (or late) infestations.

<table>
<thead>
<tr>
<th>Tree DBH*</th>
<th># injection sites</th>
<th>mls/Injection site</th>
<th>mls applied/ tree (low)</th>
<th>mls applied/ tree (high)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 - 7</td>
<td>4</td>
<td>33</td>
<td>50</td>
<td>70</td>
</tr>
<tr>
<td>8 - 10</td>
<td>4</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>11 - 13</td>
<td>4</td>
<td>75</td>
<td>100</td>
<td>150</td>
</tr>
<tr>
<td>14 - 16</td>
<td>6</td>
<td>100</td>
<td>150</td>
<td>250</td>
</tr>
<tr>
<td>17 - 19</td>
<td>9</td>
<td>125</td>
<td>150</td>
<td>275</td>
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</tr>
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<td>26 - 28</td>
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<td>56 - 58</td>
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<td>1100</td>
<td>2200</td>
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<td>71 - 73</td>
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<td>4800</td>
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<tr>
<td>74 - 76</td>
<td>46</td>
<td>900</td>
<td>2700</td>
<td>5400</td>
</tr>
</tbody>
</table>

*The number of injection sites may be reduced to one injection site every 8" of stem circumference; however, the mls/Injection site needs to be increased to 1.35 mls to deliver the specified dosage in the
Tree Micro-Infusion Dosage Table.

**Micro-Infusion Dosage Table for high rate applications.

**When to Treat

Apply when signs of insects first appear; ACE-jet is effective against actively feeding insects. However,
avoid injecting trees with signs of insect damage, such as feeding holes, when temperatures are above 90°F.

**Use in Trees, Ornaments, Forests, Seed Orchards and Tree Plantations Against Certain Lepidopterous Larvae, Homopteran, Dipteran, Hemipteran, Hymenopteran and Thysanopteran Insects

**Crop Pests

- Chewing Insects including Lepidopterous larvae: Bagworm (Thyridopteryx ephemeraeformis)
  Brown Tarantula Moth
  Budworms
  Caterpillars (Prothorotoxus robiniae)
  Casebearers
  Clearwing Borers (Pararhithriodoli and Prickettina)
  Cottonwood Twig Borer (Gysinopsoma haimbachiana)
  Eastern Oak Looper (Philaia tita)
  Eastern Tent Caterpillar (Malacosoma americanum)
  Elm Spanworm (Ennomos subsignarius)
  Fall Cankerworm (Alophora pomatia)
  Fall Webworm (Hyphantria cunea)
  Gypsy Moth (Lymantria dispar)
  Leafrollers
  Linden Looper (Erannis tilaria)
  Nontudiptic Tip Moth (larvae)
  Oakworms (Anisota senatoria, A. Virginiana, and A. stigma)
  Pine Cone Worm (Dioscyrtia spp.)
  Pine Needle Miners (including Ponderosa Pine)
  Pine Tip Moth (Rhizosciara spp.)
  Poplar Tentmaker (Clusta inclusa)
  Spring Cankerworm (Paleactia vernata)
  Forest Tent Caterpillar (Malacosoma disstria)
  Tussock Moth
  Variable Oakleaf Caterpillar (Hyadocampa ranteo)
  Walnut Caterpillar (Datina integerrima)
  Winter Moth (Dorophraga brunata)
  Whitemarked Tussock Moth (Hemiscopha leucostigma)
  Yellowwood Caterpillar (Datana minuta)
  Zimmerman Pine Moths
  Chewing and Mining insects:
  Leafminers
  Gall Midges
  Salt flies (larvae)
  Birch Leafminer
  Piercing-Sucking Insects and Mites:
  Adelgids (including Hemlock-Weedy Adelgid)
  Aphids
  Leafhoppers
  Mealybugs
  Scale Insects
  White flies
  Lice
  Plant Bugs (Lygia)
  Royal Palm Bugs
  Borer Bug (Leptocoris triatutis)
  Thrips
  Spider Mites

**Restrictions

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

PESTICIDE STORAGE: Keep product in original container. Store product in a cool dry place.
- Do not contaminate food or feedstuffs. Do not store or transport near feed or food.

PESTICIDE DISPOSAL: Waste resulting from the use of this product should be disposed of according
to the Directions for Use, i.e. used as directed in the injection equipment.

CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container.
- Completely empty contents of packets into injection equipment. Dispose of empty packets in a sanitary landfill or by incineration if approved by State and Local authorities. Offer cardboard container 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.