ACE-jet

Systemic Insecticide for Micro-Infusion®

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 [O,S-Dimethyl Acetyl Phosphoramidothioate]	97.4%
OTHER INGREDIENTS	2.6%
TOTAL	100.0%

EPA Reg. No. 74578-2 • EPA Est. No. 65387-AR-006

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

KEEP OUT OF REACH OF CHILDREN

CAUTION

STOP - READ THE ENTIRE LABEL BEFORE USE.

AVISO: Precaución al usuario: Si usted no puede leer o entender inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente. To the user: If you cannot read or understand English, do not use this product until the label has been fully explained to you.

Manufactured for: Arborjet Inc. 99 Blueberry Hill Road, Woburn, MA 01801 781-935-9070

PRECAUTIONARY STATEMENTS

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.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Mixers, loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Socks and shoes
- Chemical resistant gloves made of polyethylene or polyvinyl chloride (PVC) ≥ 14 mils
- Protective eyewear
- A minimum of a NIOSH-approved particulate filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R, or P filter; OR a NIOSH-approved powered air purifying respirator with an HE filter.*

*Applicators do not require a respirator during tree injection.

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

USER SAFETY REQUIREMENTS: Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

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.
- 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For additional information on this pesticide product (including health concerns, medical emergencies or pesticide incidents), you may also contact the National Poison Control Hotline at **1-800-222-1222**, 24 hours a day, 7 days a week.

Note to Physician: Organophosphates are cholinesterase inhibitors. If signs of cholinesterase inhibition appear, atropine is antidotal. 2-PAM also may be used in conjunction with atropine but should not be used alone.

ENVIRONMENTAL HAZARDS: This pesticide is highly toxic to birds. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the high water mark. Do not contaminate water when disposing of equipment wash water.

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

PHYSICAL OR CHEMICAL HAZARDS: Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

USE RESTRICTIONS:

- California: Maximum application rate in Calirfornia must not exceed 50.6 liters of this product per day per applicator.
- Keep away from children.
- 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.
- Do not use this product on food bearing trees or shrubs or on trees or shrubs that will bear food within one year after application.
- 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.

For agricultural and commercial use only. Not for use or storage around the home.

AGRICULTURAL USE REQUIREMENTS: Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE). The requirements in this box only apply to uses of this product that are covered by the Workers Protection Standard.

No Worker Protection Standard worker re-entry restrictions or worker notification requirements apply when this product is injected into agricultural trees.

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.

APPLICATION TO ORNAMENTALS: ACE-jet is for use on trees & landscape ornamentals including conifers, Christmas tree & deciduous tree farms 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.

DIRECTIONS

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 humidity) are optimal for injection uptake. Treat conifers in the early morning during hot, dry periods for optimum uptake. Micro-Injection 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.

ARBORJET 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 the drop in concentration of A.I. reported in large trees and to extend the period of product activity against pests as compared to a Micro-Injection application. For optimum distribution, inject into the sapwood tissues at the base of the tree. Work around the tree, injecting no closer than 6.0 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 ARBORJET STINGER PROCEDURE: Alternatively 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 predrilled hole with a mallet. Remove STINGERS upon completion of infusion process by twisting and pulling out counter-clockwise. 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 MONOCOTS: 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 palm*, 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.
*Not for use in California

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.

ARBORJET SYSTEMS

AIR/HYDRAULIC MICRO-INJECTION APPLICATION: Prepare the solution following the mixing instructions above. 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® 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-Injection Dosages Table** to determine the volume in milliliters to be delivered and number of injection sites to apply.

TREE I.V. 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.

TREE MICRO-INJECTION DOSAGES TABLE

For use with the Micro-Injection Devices

Dose specified is per injection site. Dosages are based on one injection site for every 6" of stem circumference; designed for shorter-term activity against pests as compared to a Micro-Infusion® application.** Repeat applications as needed.

Tree DBH"	# injection sites*	mLs/ injection site	mLs applied/ tree
5 - 7"	3	9	27
8 - 10"	5	9	45
11 - 13"	6	9	54
14 - 16"	8	9	72
17 - 19"	9	9	81
20 - 22"	11	9	99
23 - 25"	12	9	108
26 - 28"	14	9	126
29 - 31"	15	9	135
32 - 34"	17	9	153
35 - 37"	18	9	162
38 - 40"	20	9	180
41 - 43"	21	9	189
44 - 46"	23	9	207
47 - 49"	24	9	216
50 - 52"	26	9	234
53 - 55"	27	9	243
56 - 58"	28	9	252
59 - 61"	30	9	270
62 - 64"	32	9	288
65 - 67"	33	9	297
68 - 70"	35	9	315
71 - 73"	36	9	324

MICRO-INFUSION DOSAGES TABLE

For use with the Arborjet Tree I.V.

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.

Tree DBH"	# injection sites	mLs applied/ tree (low)	mLs applied/ tree (med)	mLs applied/ tree (high)
5 - 7"	4	27	33	50
8 - 10"	4	45	50	75
11 - 13"	4	54	75	100
14 - 16"	6	72	100	125
17 - 19"	6	81	125	150
20 - 22"	8	99	150	175
23 - 25"	8	108	175	200
26 - 28"	10	126	200	250
29 - 31"	10	135	225	275
32 - 34"	12	153	250	325
35 - 37"	12	162	275	375
38 - 40"	14	180	300	425
41 - 43"	14	189	350	475
44 - 46"	16	207	375	550
47 - 49"	16	216	400	600
50 - 52"	18	234	450	650
53 - 55"	18	243	475	725
56 - 58"	20	252	500	775
59 - 61"	20	270	525	800
62 - 64"	22	288	550	800
65 - 67"	22	297	550	800
68 - 70"	24	315	550	800
71 - 73"	24	324	550	800

*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 13.5 mLs to deliver the specified dosage in the Tree Micro-Injection Dosages Table.

**Refer to the Micro-Infusion® Dosage Table for higher rate applications.

CLEAN-UP

IMPORTANT! It is critical to rinse the Arborjet System thoroughly after use. Use CLEAN-jet, soap and water or isopropyl alcohol. Residues left in the device may gum the internal components.

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.

To determine the physical compatibility of ACE-jet with other products, use a jar test as described below.

1. Using a pint jar, add the proportionate amounts of the two products to 1 pint of water.
2. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed, it is physically compatible. If precipitates form, the combination is incompatible.
3. Once compatibility has been proven acceptable, use the same procedure for adding required ingredients to the formulation tank.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitation and directions for use on all product labels involved in tank mixing. User must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

NOTE: The safety of all potential tank mixes on all trees listed on this label may not have been tested. Before applying any tank mixture not specifically recommended on this label, the safety to the target tree should be tested. It is not advisable to apply pesticides via trunk injection or infusion applications that do not completely dissolve or disperse in solution. Application of liquid flowables, suspension concentrates, or dispersible granules that do not completely dissolve is NOT recommended.

CAUTION: Phytotoxicity has been reported in some crabapple cultivars.

WHEN TO TREAT

Apply when signs of insects first appear. ACE-jet is effective against actively feeding insects. However, insect activity should be monitored to establish a damage threshold for retreatment. Repeat applications as necessary.

USE IN TREES, ORNAMENTALS, FORESTS, SEED ORCHARDS AND TREE PLANTATIONS AGAINST CERTAIN COLEOPTERAN PESTS INCLUDING CAMBIAL AND WOOD-BORING INSECTS**

CROPS	PESTS
Trees, Shrubs, Evergreens, Conifers, Christmas Tree Plantations, & Palms*. In Forest Areas, including non-urban forests, tree plantations, and seed orchards, parks, rural shelter belts, rangeland trees, and woodland trees including conifers	**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

*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.

USE IN TREES, ORNAMENTALS, FORESTS, SEED ORCHARDS AND TREE PLANTATIONS AGAINST CERTAIN LEPIDOPTEROUS LARVAE, HOMOPTERAN, DIPTERAN, HEMIPTERAN, HYMENOPTERAN AND THYSANOPTERAN INSECTS

CROPS	PESTS
Trees, Shrubs, Evergreens, Conifers, Christmas Tree Plantations, & Palms*. In Forest Areas, including non-urban forests, tree plantations, and seed orchards, parks, rural shelter belts, rangeland trees, and woodland trees including conifers.	**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 titea) Eastern Tent Caterpillar (Malscosoma 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 (Rhyacionia spp.) Poplar Tentmaker (Clostera inclusa) Spring Cankerworm (Paleacrita vernata) Forest Tent Caterpillar, (Malocosoma disstria) Tussock Moth Variable Oakleaf Caterpillar (Heterocampa manteo) Walnut Caterpillar (Datana integerrima) Winter Moth (Operophtera brumata) Whitemarked Tussock Moth (Hemerocampa leucostigma), Yellownecked Caterpillar (Datana ministra) Zimmerman Pine Moths **Chewing and Mining insects:** Leafminers Gall Midges Sawflies (larvae) Birch Leafminer **Piercing-Sucking Insects and Mites:** Adelgids (including Hemlock Woolly Adelgid) Aphids Leafhoppers Mealybug Scale Insects White flies Lacebugs Plant Bugs (Lygus) Royal Palm Bugs Boxelder Bug (Leptocoris trivittatus) Thrips Spider Mites Spotted Lanternfly

*Not for use in California

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Keep this product in its tightly closed original container. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals. Do not store near food or feed.

PESTICIDE DISPOSAL: Wastes 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.

REV 06/2024