



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. 74578-MA-001
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.

ADVISO! 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 by: ARBORJET: 866-ARBORJET (866-272-6758) 99 Blueberry Hill Road, Woburn, MA 01801

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION! Harmful if swallowed. Causes eye irritation. 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):

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

Mixers, loaders applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Socks and shoes
- Chemical resistant gloves for all mixers and loaders and for applicators using hand-held application equipment
- Protective eyewear

In addition, all mixers and loaders and all applicators must wear a NIOSH approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH approved respirator with any N, R, P or HE filter.

Follow 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. 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 water mark. Do not contaminate water when disposing of equipment wash water.

PHYSICAL OR CHEMICAL HAZARDS:

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

It is a 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. 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 directly 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.

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.

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.

GENERAL DIRECTIONS

ACE-jet is for use ONLY with the tree injection systems specified on this label which include the specified VIPER and STINGER technologies.

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 actively growing 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.

ARBORJET MICRO-INJECTION AND MICRO-INFUSION™ PROCEDURES

Inject into the trunk tissue immediately above the trunk flare, or alternatively inject into tree roots exposing them by shallow excavation. After drilling a small reservoir in the sapwood, the Arborplug™ will be set in the first few xylem elements (i.e., active sapwood).

Microinject circumferentially around the tree, injecting no closer than 6.0 inches apart. Refer to Tree Diameter Table below to determine the optimum number of injection sites to apply. DO NOT microinject trees stressed by drought. Irrigate trees prior to treatment for optimal product uptake.

BASIC ARBORJET VIPER PROCEDURE:

Drill through the bark then 5/8" into the sapwood using the appropriate sized drill bit. Brad point bits are recommended, and all drill bits should be clean and sharp. Then set the Arborplug™ into place with the set tool and mallet.

For recommended Arborplug™ sizes on specific sized trees refer to the Tree Diameter Table below. Using the VIPER needle, pierce the internal septum to start the injection or infusion process. Remove VIPER needle upon the completion of the infusion process.

TREE DIAMETER, RANGE OF TRUNK APPLICATION SITES & ARBORPLUG™ SIZE SELECTION

Tree DBH	Number of Application Sites (Tree I.V.)	Number of Application Sites (Air/Hydraulic or Hand-operated)	Size of Arborplug™ (Hardwoods)	Size of Arborplug™ (Conifers)
<12"	4	4	#2, #3	#3
12"	4	6	#2, #3	#4
16"	4	8	#3	#4
20"	5	10	#3	#4
24"	6	12	#3	#4
28"	7	14	#3	#4
32"	8	16	#3	#4
36"	9	18	#3	#4
>36"	Use DBH/4	Use DBH/2	#3	#4

ALTERNATIVE ARBORJET STINGER PROCEDURE:

Alternatively set the #2 (13/64" drill bit) STINGER (removable injector tips) by gently tapping the injector tip into predrilled hole with a mallet. Remove STINGERS upon completion of infusion process.

RESINOUS CONIFERS:

In resinous conifers, such as pine and spruce, start the injection and/or infusion process immediately following the setting of the Arborplug™ into the sapwood. A prolonged delay may reduce uptake efficacy on account of resin flow.

ORNAMENTAL MONOCOTS:

In palm, drill a pilot hole into the vascular bundle using a 1/8" diameter bit one-third into the palm, then drill a second, shallow hole (5/8") to set an Arborplug™, use the VIPER needle to complete the application. Only one site is needed. Make applications into the stem, below the primary meristem. Avoid wounding the meristematic tissue located within the crown of the plant. In general, make applications to the lower trunk region, typically within 12" of the soil.

MIXING INSTRUCTIONS

Refer to the table below for mixing quantities. Use the appropriate number of packets for the tree size you wish to inject. Empty the contents of the packet into the injection canister. Add the appropriate amount of water to the canister. Use distilled water or acidic to neutral water (pH 5.5 – 7.0). Close the canister by screwing on the lid. Next swirl the contents THOROUGHLY until all the ACE-jet is dissolved. Now you are ready to pressurize the canister for the injection process.

THE NUMBER OF 15 GRAM ACE-JET PACKETS AND THE AMOUNT OF WATER FOR TOTAL INJECTION VOLUME (TIV) FOR EACH TREE SIZE CLASS.

Tree Size Class	# ACE-jet packets	mL of water (TIV)
6-11"	1	100
12-23"	2	200
24-35"	4	400
36-47"	6	600
48-59"	8	800
60-71"	10	1000

ARBORJET SYSTEMS

AIR/HYDRAULIC INJECTION APPLICATION:

Prepare the injection solution following the mixing instructions above. To inject, set the primary regulator to 75 PSI, charge the 10mL Dose-Sizer by pulling back on Dose-Sizer knob after priming, and apply the specified dose equally into the preset Arborplug™ ports. (continued to the right)

HAND-OPERATED INJECTION APPLICATION:

Prepare the injection solution following the mixing instructions above. Close and hand pump or pressurize to between 15 and 25 PSI. Charge the 10mL Dose-Sizer by pulling back on Dose-Sizer knob, then apply specified dose as per example, above.

TREE I.V. INFUSION APPLICATION:

Prepare the injection solution following the mixing instructions above. Close and pump to blow off (35-45 PSI). Insert the VIPER needle into the Arborplug™ port to begin the infusion. Remove when application is complete.

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.

- Using a pint jar, add the proportionate amounts of the two products to 1 pint of water.
- 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.
- Once compatibility has been proven acceptable, use the same procedure for adding required ingredients to the injection canister.

User must comply with all applicable directions, restrictions and precautions on the EPA-registered label when using any pesticide in tank mix combinations. The most restrictive labeling applies when using a tank mix.

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.

WHEN TO TREAT

Apply when signs of insects first appear.

USE IN TREES, ORNAMENTALS, FORESTS, SEED ORCHARDS AND TREE PLANTATIONS AGAINST CERTAIN LEPIDOPTEROUS LARVAE, HOMOPTERAN, DIPTERAN, HEMIPTERAN, HYMENOPTERAN AND THYSANOPTERAN INSECTS, COLEOPTERAN PESTS INCLUDING CAMBIAL AND WOOD-BORING INSECTS

CROPS	PESTS	DBH	DOSE
Trees, Shrubs, Evergreens, Conifers, Christmas Tree Plantations & Palms.	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. tricincta) Cottonwood Twig Borer (Gypsonoma haimbachiana) Eastern Oak Looper (Phigalia titea) 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. virginensis, 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 (Malacosoma 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.	6-11" 12-23" 24-35" 36-47" 48-59" 60-71"	75-100mL 100-200mL 200-400mL 400-600mL 600-800mL 800-1000mL
In Forest Areas, including non-urban forests, tree plantations, and seed orchards, parks, rural shelter belts, rangeland trees, and woodland trees including conifers.	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 (Leptoconis trivittatus) Thrips Spider Mites 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		
	Chewing and Mining insects: Leafminers Gall Midges Sawflies (larvae) Birch Leafminer		

RECOMMENDED FOR USE UNDER USDA SUPERVISION ONLY

CROP	USE	TREE DBH	RATE
Host trees including Elm, Maple, Birch, Willow, Box Elder, Horsechestnut, Buckeye, European Mountain Ash, Ash, Poplar, Albizzia, London Plane, and Sycamore	Asian	6-11"	75-100mL
	Longhorned Beetle	12-23"	100-200mL
		24-35"	200-400mL
	Hardwood and Non-bearing Fruit Trees	36-47"	400-600mL
Citrus Longhorned Beetle		48-59" 60-71"	600-800mL 800-1000mL

STORAGE AND DISPOSAL

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

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: 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 DISPOSAL: 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.

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.

CLEAN-UP

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

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.

