



# ABACIDE™ 2

SYSTEMIC MITICIDE/INSECTICIDE IN READY TO USE CAPSULES FOR TREE INJECTION USE FOR CONTROL/SUPPRESSION OF LISTED MITES/INSECTS OF ORNAMENTAL/OTHER TREES INTENDED FOR USE BY PROFESSIONAL APPLICATORS

MFG. BY: J.J. MAUGET CO.  
 TOWN, STATE: Arcadia, CA 91006  
 EPA REGISTRATION NO: 7946-27  
 EPA ESTABLISHMENT NO: 7946-CA-1

**ACTIVE INGREDIENT:**

Abamectin (CAS # 71751-41-2)..... 1.9%

**OTHER INGREDIENTS:**..... 98.1%

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

1 gallon contains 0.15 lb abamectin

Net Contents:

24 capsules plus 24 feeder tubes per carton

- \_\_\_\_\_ 24 capsules @ 0.07 fl. oz. (2 mL) each, 1.62 fl. oz. (48 mL) net
- \_\_\_\_\_ 24 capsules @ 0.10 fl. oz. (3 mL) each, 2.42 fl. oz. (72 mL) net
- \_\_\_\_\_ 24 capsules @ 0.14 fl. oz. (4 mL) each, 3.25 fl. oz. (96 mL) net
- \_\_\_\_\_ 24 capsules @ 0.17 fl. oz. (5 mL) each, 4.04 fl. oz. (120 mL) net
- \_\_\_\_\_ 24 capsules @ 0.26 fl. oz. (7.5 mL) each, 6.24 fl. oz. (180 mL) net

Shipping box: 12 cartons as above.

- \_\_\_\_\_ 288 capsules @ 0.07 fl. oz. (2 mL) each, 19.5 fl. oz. (576 mL) net
- \_\_\_\_\_ 288 capsules @ 0.10 fl. oz. (3 mL) each, 29.2 fl. oz. (864 mL) net
- \_\_\_\_\_ 288 capsules @ 0.14 fl. oz. (4 mL) each, 39.0 fl. oz. (1152 mL) net
- \_\_\_\_\_ 288 capsules @ 0.17 fl. oz. (5 mL) each, 48.7 fl. oz. (1440 mL) net
- \_\_\_\_\_ 288 capsules @ 0.26 fl. oz. (7.5 mL) each, 74.9 fl. oz. (2160 mL) net

**KEEP OUT OF REACH OF CHILDREN**

## WARNING AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail).

<b>FIRST AID</b>	
<b>IF SWALLOWED</b>	<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>
<b>IF IN EYES</b>	<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 doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<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 doctor for treatment advice.</li> </ul>
<b>IF INHALED</b>	<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, preferably mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **INFOTRAC 1-800-535-5053** for emergency treatment information.

**NOTE TO PHYSICIAN**

Early signs of intoxication include dilation of pupils, muscular incoordination, and muscular tremors. Toxicity following accidental ingestion of Abacide 2 can be minimized by early administration of chemical absorbents (e.g., activated charcoal). If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parental fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels and proper respiratory functionality) as indicated by clinical signs, symptoms, and measurements. In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since abamectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic abamectin exposure.

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

**WARNING.** May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes. Harmful if absorbed through the skin or inhaled. Avoid contact with skin or clothing. Avoid breathing vapors.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category B on an EPA chemical resistance category selection chart. **APPLICATORS AND OTHER HANDLERS MUST WEAR:**

- Long-sleeved shirt and long pants
- Chemical resistant gloves, such as barrier laminate or butyl rubber ≥ 14 mils
- Shoes plus socks
- Protective eyewear

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

**USER SAFETY RECOMMENDATIONS**

Users should:

- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove contaminated clothing and wash clothing immediately before reuse.

**NOTICE:** This product contains a chemical (N-methyl pyrrolidone) known to the state of California to cause birth defects or other reproductive harm.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish and wildlife. Do not apply directly to water. Do not contaminate water when disposing of equipment washwaters or rinsate. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops.

**PHYSICAL OR CHEMICAL HAZARDS**

Do not use or store near heat or open flame.

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal of micro-injection capsules. Do not reuse micro-injection capsules.

**PESTICIDE STORAGE:** Store in a cool dry place out of the reach of children. Store capsules in an upright position in closed carton. Keep out of direct sunlight when possible.

**PESTICIDE DISPOSAL:** Dispose of partially used capsules at an approved waste disposal facility.

**CONTAINER HANDLING:** Offer for recycling, if available. Dispose of empty capsules in a sanitary landfill or by incineration if approved by State and Local authorities.

## Resistance Management

For resistance management, ABACIDE 2 contains a Group 6 insecticide. Any insect/mite population may contain individuals naturally resistant to ABACIDE 2 and other Group 6 insecticides/acaricides. The resistant individuals may dominate the insect/mite population if this group of insecticides/acaricides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed. To delay insecticide/acaricide resistance, take the following steps: • Rotate the use of ABACIDE 2 or other Group 6 insecticides/acaricides within a growing season, or among growing seasons, with different groups that control the same pests. • Adopt an integrated pest management (IPM) program for insecticide/acaricides use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices. • Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor. • Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area. • For further information or to report suspected resistance contact J.J. Mauget Co. representatives at (626) 444-1057 or at mauget.com.

## DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

### RESTRICTIONS

For terrestrial nonfood use only. Due to toxicity to bees, use for tree micro-injection only as a post-bloom application. Do not inject trees that are less than two inches in diameter. This product is NOT to be used on trees which will produce food within the year following treatment.

### USE DIRECTIONS

ABACIDE 2 insecticide is intended for use by commercial Arborists (applicators) on forest, woodlands, Christmas and ornamental trees, trees growing in parks, cemeteries, golf courses, and seed and cone nurseries/orchards for control of bud and leaf pests; shoot, stem, trunk, branch, and phloem-feeding pests; and suppression of pine cone worms, pine seed bugs, and aphids, thrips, and whiteflies. ABACIDE 2 can also be applied in commercial or residential landscapes, interior and exterior plantscapes, and other areas where ornamental trees and woody shrubs are grown. Make applications prior to pest appearance or after they are observed. A single application lasts one growing season. For two-season control of Scolytid Bark Beetle, see Pest, Rate, and Timing table below.

#### Timing of Application:

Preventive applications 2 to 4 weeks prior to anticipated feeding damage will provide better management, but rescue treatments will also perform well with acceptable minimal damage. For bark beetles such as Engraver beetle, Mountain Pine beetle, and Southern pine beetle, late summer/early fall treatments the year prior to next season infestation are preferred, but not exclusive.

#### Combination Treatments:

When treating for beetles that carry fungi (ambrosia), an additional treatment of fungicide may improve management strategies. Materials to consider are fungicides labeled for use against vascular-inhabiting fungi.

### 1. The MAUGET GENERATION II SYSTEM

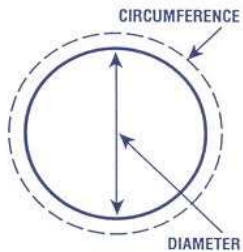
- (A) Mauget compressible capsule with insert hole
- (B) Feeder tube with flanged gun-sight and opposite tapered beveled end

### 2. TOOLS

- (A) Portable electric drill
- (B) 11/64 in. (0.4 cm) drill bit
- (C) Plastic mallet
- (D) Tape measure
- (E) Insertion tool (optional)

### 3. NUMBER OF CAPSULES

Measure the circumference or diameter of the tree at chest height at a level of 4.5 feet from the soil-line using a tape measure or an arborist diameter tape. If measuring the circumference, divide this number by six (6) to determine the number of capsules needed. If measuring the diameter at breast height (DBH), divide this number by 2 (two) to determine the number of capsules needed.



If the number of capsules results in a fraction, round up to the higher whole number. To account for trunk flare, place injection sites evenly (every 6-8 inches) around the base of the root flare within 6 to 8 inches of the root crown. For treatment of pinewood wilt nematode, space injection sites every 4 inches of circumference. For pines and other resinous conifer species, injection sites may be higher up on trunk (refer to Step 5). Follow good injection practices. Disinfect drill bit prior to use on each tree.

Use the following dosage, depending on tree diameter, *unless treating for Scolytid beetles* (see Application Chart):

- 2 mL capsules – 2 to 10 inches DBH or 6 to 30 inches of circumference; space capsules at approximately 6 inch intervals
- 3 mL capsules – 10 to 36 inches DBH or 30 to 113 inches of circumference; space capsules at approximately 6 inch intervals
- 4 mL capsules – 36 inches DBH and above or 113+ inches in circumference; space capsules at approximately 6 inch intervals

For heavier infestation and/or more persistent insects, use the 4 mL capsules for all tree sizes. Trees in advanced stages of insect infestation may not respond to treatment. The health, species of the tree and the environmental conditions will determine the rate of uptake.

For trees that require higher dosages per diameter inch, multiply the desired dosage by tree size, then divide by the capsule dosage to achieve total number of capsules. The 7.5 mL dosage allows for a single ring of capsules around the tree at closer spacing. Alternatively, use a piggy-back application (same feeder tube, 2 capsules drained back to back) with the 5 mL dosage at the standard spacing of every 6 inches circumference.

For example, using the Ips beetle rate of 5-20 mL per diameter inch, **a rate of 5 mL per inch DBH delivered with a 7.5 mL capsule is:**

- 20 inch DBH tree x 5 mL per inch DBH = 100 mL per tree.
- Divide 100 mL by 7.5 mL capsule.
- Total capsules: 13.3; round to 14 total capsules. Round all fractions up to the next higher number.
- Divide the circumference (62.8 inches) by 14 capsules = 4.5 inches.
- Space capsules every 4-5 inches around the circumference of the tree.

#### **4. PRESSURIZING THE CAPSULES**

Pressurize capsules before or after installation. Making applications in high-altitude conditions may be difficult, due to the button not locking down. This is an indication of high internal capsule pressure that results in faster diffusion of product into the tree. To maintain optimal pressure, monitor the capsules after installation and pressurize units when half of the dosage is administered. If the center button depresses too easily and drainage is slow, pre-puncturing the capsule port membrane with the feeder tube prior to installation will equalize pressure to allow for diffusion.

#### **5. DRILLING THE TREE HOLE**

Unless otherwise noted, predrill, at approximately 6 in. intervals, injection sites at a slight downward angle at the root flair/buttress area (approximately 6.0 to 8.0 in., 15 to 20 cm) above ground level, using a clean 11/64 in. (0.4 cm) drill bit (except monocotyledons, conifers, etc.). Drill to a depth of 3/8 to 1/2 in. (0.95 to 1.3 cm) into healthy xylem tissue under the bark. For mini-micro feeder tube, see Step 10. Disinfect drill bit, insertion tool (if used) as well as mini-micro insertion tool prior to use on each tree. For conifer species with high resin pressure, place injection sites higher on the trunk (36-48") and to a deeper drill depth of 2+ inches.

#### **6. TREE HOLE DEPTH**

It is important that the feeder tube be set to the proper depth in the conductive xylem tissue. If set too deeply, flow is restricted by blockage in the heartwood; if set too shallow, leakage may occur. The feeder tube dispensing end is beveled to allow for a 1/4 in. plus tolerance.

#### **7. COMBINING CAPSULE AND FEEDER TUBE**

Several methods of combining the capsule with the feeder tube are acceptable including placing by hand, the feeder tube's flange end, with the flange notch upward, into the capsule insert hole of a compressed upright capsule. Push the flange end of the feeder tube flush with the membrane located at the inner end of the insert hole.

#### **8. PLACING THE FEEDER TUBE IN THE TREE**

Firmly seat the beveled, dispensing end of the feeder tube, with the attached upright capsule, into the predrilled tree injection hole. Tap the rear side, opposite the insert hole of the capsule with a mallet. This action will simultaneously seat the feeder tube in the injection hole while breaking the capsule membrane for releasing the capsule contents into the feeder tube and into the tree. Another method is to place the feeder tube in the predrilled hole of the tree using the optional insertion tool. Then place the compressed capsule onto the feeder tube in place.

#### **9. REMOVAL**

Uptake in the tree usually occurs within several minutes. Capsules may be temporarily rotated in place to see if any liquid is left. When empty, turn the capsules upside down for one minute before removal. Applicators must remove micro-injectors promptly after treatment. Empty capsules must not be left on the tree. The health and species of the tree, and local environmental conditions will determine the rate of uptake. If the capsule does not completely empty within a few hours, invert and carefully remove the capsule and enclose it in a heavy duty plastic bag for disposal in accordance with state and local regulations.

#### **10. MINI-MICRO FEEDER TUBE**

For established trees with thin bark (less than 3/8 in. thickness), use a 7/64 in. drill bit to produce a micro-injection site for a mini-micro feeder tube (special order size). Use of the Mini-Micro Insertion tool is recommended.

<b>TARGET PESTS, APPLICATION RATES and TIMING</b>	
<b>PEST</b>	<b>RATE</b>
Aphid, Thrip, and Whiteflies	1-2mL/inch DBH, suppression.
Clearwing Moth Borers, such as Ash, Fir, Oak, Pine, Sequoia Pitch Moth, Sycamore, and Willow	1-2 mL/inch DBH.
Leaf Beetle and Leaf Miner	1-2 mL/inch DBH. Treat just prior to insect activity in area.
Lepidopteran larvae, such as Bagworm, Spruce Budworm, Webworms, Gypsy Moth, Tent Caterpillars, Oakworm, Tussock Moth, Winter Moth, and Zimmerman Moth	1-2 mL/inch DBH. Treat just prior to insect activity in area.
Mites, such as warm and cool season mites, Palm mites, rust mites, gall mites, and eriophyid mites	1-2 mL/inch DBH. Treat just prior to insect activity in area.
Pine Cone Worm and Pine Seed Bug	5-20 mL/inch DBH. Treat 3-4 weeks prior to anticipated insect activity. Fall provides better distribution of product throughout tree.
Pinewood Wilt Nematode (except CA)	3-5 mL/in DBH or 4-6 mL every 4 inches of trunk circumference.
Plant bugs, such as Ash, Honey Locust, and Sycamore	1-2 mL/inch DBH. Treat just prior to insect activity in area.
Roundheaded Borers such as Sawyer beetle (except Asian Longhorned Beetle)	5-20 mL/inch DBH.
Sawfly larvae, such as Elm and Pine	1-2 mL/inch DBH. Treat just prior to insect activity in area.
Scolytid Bark Beetle, such as Ips Engraver Beetle, Mountain Pine Beetle, Southern Pine Beetle, Spruce Beetle, Turpentine Beetle, and Western Pine Beetle	5-20 mL. Fall provides better distribution of product throughout the tree.
Sycamore Lace Bug	1-2 mL/inch DBH. Treat just prior to insect activity in area.

NOTE: For Scolytid beetle treatment, use the lower dosage range for single-season control, Use the mid- to high dosage range for two-season control,

#### **DISCLAIMER**

To the extent consistent with applicable law, J.J. Mauget Co. makes no warranty of merchantability, fitness for any purpose or otherwise expressed or implied concerning this product or its uses which extends beyond the use of the product under normal conditions in accord with the statements made on this label.