

EMAMECTIN BENZOATE GROUP 6 INSECTICIDE

## RESTRICTED USE PESTICIDE

DUE TO ACUTE TOXICITY TO HUMANS. FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.

# TREE-äge R10

Injected insecticide for two-year control of listed insect and mite pests in deciduous, broadleaf evergreen, coniferous, and palm trees.

**ACTIVE INGREDIENT:**

Emamectin Benzoate<sup>1</sup>.....9.7%

**OTHER INGREDIENTS:**.....90.3%

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

<sup>1</sup>CAS No. 155569-91-8 Contains 0.791 lbs emamectin per gallon.

### 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.)

EPA Reg. No. 74578-12 EPA Est. No. 39578-TX-1

Net Contents: 1 Pint (473 mL)

Manufactured for Arborjet, Inc. 99 Blueberry Hill Road, Woburn, MA 01801

### PRECAUTIONARY STATEMENTS

#### Hazards to Humans and Domestic Animals WARNING/AVISO

Causes substantial but temporary eye injury. Harmful if swallowed. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

FIRST AID	
<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 swallowed</b>	<ul style="list-style-type: none"> <li>Call poison control center or doctor immediately for treatment advice.</li> <li>Have person sip glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</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>
<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>
<p><b>NOTE TO PHYSICIAN:</b> Early signs of intoxication include dilation of pupils, muscular incoordination, and muscular tremors. Vomiting within one-half hour of exposure can minimize toxicity following accidental ingestion of the product; rapidly after exposure (&lt; 15 minutes) administer repeatedly medical charcoal in a large quantity of water or ipecac. If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parenteral 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 emamectin benzoate 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 emamectin benzoate exposure.</p>	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p>	
<p><b>HOT LINE NUMBER</b> For 24-Hour Medical Emergency Assistance (Human or Animal), Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call <b>1-800-255-3924</b></p>	

#### Personal Protective Equipment (PPE)

Mixers, loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical resistant gloves such as barrier laminate; butyl rubber >14 mils; nitrile rubber >14 mils; or Neoprene rubber >14 mil during mixing and loading.
- Shoes and socks
- Protective eyewear

#### Environmental Hazards

This product is highly toxic to fish, mammals and aquatic invertebrates. Do not apply directly to water, or 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 washwater or rinseate. This product is highly toxic to bees exposed to direct treatment or residues on blooming trees. Do not apply this product to blooming trees if bees are foraging the area.

#### Physical or Chemical Hazards

Do not use or store near heat or open flame.

### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of ARBORJET, INC. or Seller. To the extent permitted by applicable law, Buyer and User agree to hold ARBORJET, INC. and Seller harmless for any claims relating to such factors. ARBORJET, INC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or ARBORJET, INC., and (2) Buyer and User assume the risk of any such use. TO THE EXTENT PERMITTED BY APPLICABLE LAW, ARBORJET, INC. MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.

To the extent permitted by applicable law, in no event shall ARBORJET, INC. be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ARBORJET, INC. AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ARBORJET, INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT.

ARBORJET, INC. and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of ARBORJET, INC.

### DIRECTIONS FOR USE

**RESTRICTED USE PESTICIDE** It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

**IMPORTANT:** Read entire label before using this product. Failure to follow label instructions may result in poor control or tree injury. Failure to follow label directions may cause injury to people, animals and environment.

### APPLICATION TO TREES

TREE-äge R10<sup>®</sup> is for control of mature and immature arthropod pests of deciduous, broadleaf evergreen, coniferous, and palm trees, including, but not limited to, those growing in residential and commercial landscapes, parks, plantations, seed orchards, and forested sites (in private, municipal, state, tribal and national areas). TREE-äge R10<sup>®</sup> contains the active ingredient emamectin benzoate and is formulated to translocate in the tree's vascular system when injected. This product must be placed into active sapwood, and will actively control pests for up to two years.

### USE DIRECTIONS

TREE-äge R10<sup>®</sup> is designed for use with tree injection devices including infusion devices that meet the label and dose requirements (for example, the Arborjet Tree Injection Systems) for the control of listed pests of trees. Follow manufacturer's directions for equipment use.

Dosages are based on the Diameter (in inches) of the tree at Breast Height (DBH<sup>1</sup>). Tree DBH is the outside bark diameter at breast height. Breast height is defined as 4.5 feet (1.37m) above the ground on the uphill side of the tree. For the purposes of determining breast height, the ground includes the duff layer that may be present, but does not include unincorporated woody debris that may rise above the ground line.

The diameter is determined by measuring the circumference of the tree at DBH<sup>1</sup>, and dividing the circumference (in inches) by three (3). To determine DBH<sup>1</sup> for multistemmed woody ornamentals, measure the DBH<sup>1</sup> for each stem or branch and add together for the total DBH<sup>1</sup> per tree.

**Placement of Application/Injection Sites:** Inject at the base of the tree. For best results, inject into the trunk within 24" of the soil, into the trunk flare or into tree roots exposing them by shallow excavation. Make applications into intact, healthy sapwood. Do not inject into injured areas or areas with decay. Select injection sites associated with stem growth.

**Number of Injection Sites:** Work around the tree, spacing injection sites approximately every 4 to 8 inches of tree's circumference.

**Drill Depth:** Drill through the bark then 5/8" to 2" into the sapwood with the appropriate sized drill bit. Use clean, sharp drill bits. Brad point bits are recommended. Precautions should be taken to avoid diseased areas and transferring infected tissues to other injection sites.

#### Resinous Conifers

In resinous conifers, such as pine and spruce, start the injection immediately after drilling into the sapwood. A prolonged delay may reduce uptake on account of resin flow into the drill site.

#### Palms

Make applications into palms 2-3 feet from the soil level, above the lignified tissues. Typically, only a single injection site is needed, however up to 4 injection points may be installed. Drill into the palm tissue 4" deep, or up to 1/3 of trunk diameter to apply product.

#### WHEN TO TREAT

TREE-äge R10<sup>®</sup> contains the active ingredient emamectin benzoate, which is a glycoside insecticide. It is active against immature and adult stages of arthropods. The primary route of toxicity is through ingestion.

**ENVIRONMENTAL CONDITIONS:** Uptake of TREE-äge R10<sup>®</sup> is dependent upon the tree's transpiration. For better 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. Avoid treating trees that are moisture stressed or suffering from herbicide damage. Alternatively, alleviate drought or moisture stress in trees by applying water at the time of application.

**MONITOR TREE HEALTH and PEST INFESTATIONS:** Effective injection treatment is favored by a full canopy (i.e., leaves) and healthy vascular system. Once these tissues are compromised by arthropod damage (larval galleries, defoliation, leaf mining, etc.) an effective and uniform application of TREE-äge R10<sup>®</sup> may be difficult to achieve and subsequent control may be poor. Optimally, treatment should be made preventively at least 2 to 3 weeks before arthropods historically infest the host tree. As a result of systemic movement and longevity of TREE-äge R10<sup>®</sup> in trees, this interval may be extended much earlier to 6 months should tree dormancy, adverse weather, management, asynchronous life cycle of pests, etc., allow earlier application timing.

TREE-äge R10<sup>®</sup> may also be effective as a remedial treatment against some pests, such as those with slower development or if multiple life stages occur. Pests that attack the stem and branches may disrupt vascular tissue, resulting in poor distribution of the product in an infested tree. However, control may be achieved if susceptible larvae come into contact or feed on TREE-äge R10<sup>®</sup>-treated tissues.

#### USE

Use as formulated (e.g., injection) or dilute with equivalent of 1 to 3 volumes of water (e.g., infusion) unless otherwise indicated in comments under Application in Trees.

**USE RATE TABLE**

Tree Diameter (DBH) (Inches)	Low ml. product/tree <sup>1</sup>	Medium ml. product/tree	High ml. product/tree	No. of Injection Sites	No. of Infusion Sites
4-5	6	12	24	3	4
6-7	8	16	32	4	4
8-9	8	16	32	4	4
10-11	10	20	40	5	4
12-13	12	24	48	6	4-6
14-15	14	28	56	7	6-8
16-17	16	32	64	8	6-8
18-19	18	36	72	9	6-8
20-21	20	40	80	10	8-10
22-23	22	44	88	11	8-10
24-25		48	96	12	8-10
26-27		52	104	13	10-12
28-29		56	112	14	10-12
30-31		60	120	15	10-12
32-33		64	128	16	10-12
34-35		68	136	17	10-12
36-37		72	144	18	10-12
38-39		76	152	19	10-12
40-41		80	160	20	16-18
42-43		84	168	21	16-18
44-45		88	176	22	16-18
46-47		92	184	23	16-18
48-49		96	192	24	16-18
50-51		100	200	25	16-18
52-53		104	208	26	18-20
54-55		108	216	27	18-20
56-57		112	224	28	18-20
58-59		116	232	29	18-20
60-61		120	240	30	18-20
62-63		124	248	31	20-24
64-65		128	256	32	20-24
66-67		132	264	33	20-24
68-69		136	272	34	20-24
70-71		140	280	35	20-24
72		144	288	36	20-24

NOTES ON NUMBER OF INJECTION SITES: Drill holes around the tree, approximately 4 to 8" apart, preferably low in the tree bole for greatest canopy distribution. Avoid damaged or obviously decayed areas of trunk when selecting areas to inject. Additional sites may be used if deemed necessary.

NOTES ON APPLICATIONS: The use of low, medium, or high dose per tree is based on the professional judgment of the applicator as to what constitutes a low, medium or high infestation. The applicator may likewise elect to apply rates intermediate to the low to medium and medium to high rates as long as they are in accordance with the Target Pest in the **Applications in Trees** Table.

If the tree canopy has been significantly diminished, i.e., excessive tree pruning or turning trees into a hedge reduce dose accordingly or contact Arborjet for recommendation.

<sup>1</sup>In Palms always use the low ml. product/tree.

Higher rates tend to provide longer residual and control of more difficult to control insects. See **Target Pest** for additional information in choosing the amount of product to apply.

**Applications in Trees**

Tree Tissue	Target Pest	Application Rate <sup>1</sup>	Comments
Seed and Cone	Coneworm ( <i>Dioryctria</i> spp.) Cone beetle ( <i>Conophthorus</i> spp.) Pine Cone Seed Bug (suppression of <i>Leptoglossus</i> and <i>Tetyra</i> spp. in the year of treatment)	Medium to High	For optimal control apply in the fall for early season pests or at least 30 days before insect attack.
Bud and Leaf	Tent Caterpillars (including Eastern, Forest, Pacific, and Western) Western Spruce Budworm Winter Moth	Low to Medium	For best results, apply at least 2-3 weeks before the pest has historically been present.
	Bagworm Cankerworm Casebearer* Eastern Oak Looper Elm Spanworm Fall Webworm Gypsy Moth Leafrollers Linden Looper Mimosa Webworm Oak Worm Pine Tip Moth Pine Needle Miner* Poplar Tentmaker* Tussock Moth Variable Oakleaf Caterpillar* Yellownecked Caterpillar* Leafminers (including Lepidoptera, Coleoptera, Hymenoptera) Honeylocust Plant Bug Pine Needle Scale Conifer Mite Red Palm Mite Sawfly (including Elm, Pine)	Low to High	Consult with local extension agent for when this will occur in your area.  For more uniform distribution in the canopy, dilute product with equivalent 1 to 9 volumes of water prior to application.

Shoot, Stem, Trunk and Branch	Clearwing Borers (including Ash, and Sequoia Pine Pitch Tube Moth) Carpenterworm* Cottonwood Twig Borer Zimmerman Moth	Low to Medium	For best results, apply at least 30 days before historical egg hatch or adult flight and to trees whose vascular tissue is not damaged.  For more uniform distribution in the canopy, dilute product with equivalent 1 to 9 volumes of water prior to application.  If vascular tissue is damaged or plugged by insect galleries, nematodes or fungi, uniform treatment and control may not be achieved.  <u>For bark beetles that attack the tree bole:</u> for more uniform distribution within the tree bole, inject every 4 inches of stem circumference.  <u>For bark beetles that attack the canopy:</u> dilute product with equivalent 1 to 9 volumes of water prior to application.
	Flat-headed Borers (including adult and larvae of Emerald Ash Borer)	Low to High	
	Gall Wasps, including Banyan Stem Gall Wasp*  Roundheaded Borers (excluding Asian Longhorned Beetle)  Ambrosia Beetles (such as Polyphagous Shot Hole Borer, Euwallacea fornicatus) <sup>2</sup>  Scolytids (bark beetles) <sup>3</sup> Ips Engraver Beetles <sup>3,4</sup> Mountain Pine Beetle <sup>2,3</sup> Southern Pine Beetle <sup>3</sup> Spruce Beetle <sup>3</sup> Western Pine Beetle <sup>2,3</sup> Black Turpentine Beetle <sup>3</sup> Walnut Twig Beetle <sup>2,4</sup>  Pinewood Nematode	Medium to High	

<sup>1</sup> Use medium to high rates for remedial and longer residual control.

<sup>2</sup> Use of product to control this insect may not result in the control of diseases vectored by the insect.

<sup>3</sup> Bark beetles that attack the tree bole

<sup>4</sup> Bark beetles that attack the canopy

\*Not for use in the State of California.

**Compatibility**

TREE-äge R10<sup>®</sup> can only be mixed with Propizol<sup>®</sup> Systemic Fungicide before injection. Refer to the Propizol label for rates and instructions. This product cannot be mixed with any other insecticides, fungicides, plant growth regulators, surfactants, adjuvants, and fertilizers unless approved by the manufacturer.

**RESTRICTION**

Do not apply to trees that may yield food consumed by humans or used in animal feed. TREE-äge R10<sup>®</sup> is not to be reformulated or blended.

**STORAGE AND DISPOSAL**

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

**Pesticide Storage**

Store in a cool, dry place, away from children and pets. Keep from freezing.

**Pesticide Disposal**

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

**Container Handling**

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

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For non-emergency (e.g., current product information), call Arborjet, Inc. at 1-781-935-9070.

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Rev. 9.2020

