



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

December 9, 2019

Katie Woodall
Agent for Rotam Agrochemical Co., Ltd
Wagner Regulatory Associates
P.O. Box 640
7217 Lancaster Pike, Suite A
Hockessin, DE 19707

Subject: Registration Review Label Mitigation for Emamectin Benzoate
Product Name: EMAMECTIN BENZOATE 4% SL
EPA Registration Number: 83100-35
Application Dates: July 12, 2019
Decision Numbers: 553085

Dear Ms. Woodall:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Emamectin Benzoate Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

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EPA Reg. No. 83100-35
Decision No. 553085

If you have any questions about this letter, please contact Darius Stanton by phone at 703-347-0433, or via email at Stanton.darius@epa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Linda Arrington', with a stylized flourish at the end.

Linda Arrington, Branch Chief
Risk Management and Implementation Branch 4
Pesticide Re-Evaluation Division
Office of Pesticide Programs

Enclosure

ACCEPTED

Dec 09, 2019

Under the Federal Insecticide, Fungicide
and Rodenticide Act as amended, for the
pesticide registered under
EPA Reg. No. 83100-35**EMAMECTIN BENZOATE** **GROUP** **6** **INSECTICIDE**

[Emerald Ash Borer]

[Winter Moth]

[Japanese Beetle]

EMAMECTIN BENZOATE 4% SL

Master Label consisting of:

Pages 1-9: Emamectin Benzoate 4% SL

Pages 10-15: Sub-label A: ABN: BRANDT enTREE EB; For Use in BRANDT enTREE Ready-to-Use (RTU) Low Pressure Injection Technology

Pages 16-20: Sub-label B: ABN: Mecta-Cide

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

Active Ingredient:	By Wt.
Emamectin Benzoate ¹	4.0%
Other Ingredients:	<u>96.0%</u>
Total:	100.0%

¹CAS No. 155569-91-8. Contains 0.36 lb. emamectin per gallon.**KEEP OUT OF REACH OF CHILDREN**
CAUTIONSi 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.)

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call poison control center or doctor immediately for treatment advice. • Have person sip glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN:	
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 (<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.	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOTLINE NUMBER	
For 24-Hour Medical Emergency Assistance (Human or Animal), call 1-800-222-1222 . For Chemical Emergency Assistance (Spill, Leak, Fire or Accident), call CHEMTREC at 1-800-424-9300 .	
[See [complete] [additional] [First Aid] [Precautionary Statements] [and] Directions For Use inside booklet.]	

EPA Reg. No. 83100-35

EPA Est. No.

Manufactured For:
Rotam Agrochemical Co., Ltd.
Unit 6, 26/F Trend Centre
29 Cheung Lee Street
Chai Wan, Hong Kong**NET CONTENTS:** [1 LITER (33.8 oz.)]

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. 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.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

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 mils
- Shoes and socks
- Protective eyewear

ENVIRONMENTAL HAZARDS

This product is highly toxic to fish, mammals and aquatic invertebrates. Do not apply directly to water, 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. 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 treatment area.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame. Do not mix or allow to come into contact with an oxidizing agent. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

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.

PRODUCT INFORMATION

EMAMECTIN BENZOATE 4% SL is for control of mature and immature insect and mite pests of deciduous, 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). EMAMECTIN BENZOATE 4% SL 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

EMAMECTIN BENZOATE 4% SL is designed for use with tree injection devices that meet the label and dose requirements 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"). DBH is the outside bark diameter of the trunk at 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, and dividing circumference (in inches) by three (3). To determine DBH for multi-stemmed woody ornamentals, measure the DBH for each stem or branch and add together for the total DBH per tree.

Placement of Application/Injection Sites: Inject at the base of the tree. Inject into the stem within 12 to 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.

Number of Injection Sites: Work around the tree, spacing injection sites approximately every 4 to 8 inches of tree's circumference or according to the manufacturer's recommendation for the application device.

Drill Depth: Drill through the bark then 5/8" to 1-5/8" (hardwoods) or 1-5/8" to 2" (conifers) into the sapwood with the appropriate sized drill bit. Use clean, sharp drill bits. 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 opening.

[Palms

Make applications into palms 2-3 feet from the soil level, above the lignified tissues. One (typical) to 4 injection points may be installed. Drill into the palm tissue 4" deep, or up to 1/3 trunk diameter.]

WHEN TO TREAT

EMAMECTIN BENZOATE 4% SL 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 EMAMECTIN BENZOATE 4% SL is dependent upon the tree's transpiration. Transpiration is dependent on a number of abiotic and biotic factors, such as soil moisture, soil and ambient temperature, and time of day. For 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.

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 pest damage (larval galleries, defoliation, leaf mining, etc.) an effective and uniform application of EMAMECTIN BENZOATE 4% SL may be difficult to achieve and subsequent control may be poor. For optimum results, treat at least 2 to 3 weeks before pests historically infest the host tree. As a result of systemic movement and longevity of EMAMECTIN BENZOATE 4% SL 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.

EMAMECTIN BENZOATE 4% SL may also be effective as a remedial treatment against some pests, such as those with slower development or if multiple life stages are susceptible to EMAMECTIN BENZOATE 4% SL. Pests that attack the stem and branches such as [bark beetles and] clearwing borers may disrupt vascular tissue, resulting in poor distribution in an infested tree. This includes the initial larval stages of pests, such as flat-headed borers and clearwing borers, that attack the stem and branches, which may disrupt vascular tissue resulting in poor distribution of the product in an infested tree. However, control may be achieved if larvae come into contact or feed on EMAMECTIN BENZOATE 4% SL treated tissues.

[OPTIONAL USE DIRECTIONS "A"]**USE RATES**

Use as formulated or dilute with equivalent 1 to 3 volumes of water or more, as necessary.

Tree Diameter (DBH) (Inches)	Low (mL product/tree)	Medium (mL product/tree)	Medium - High (mL product/tree)	High (mL product/tree)
4 to 6	15	25	50	-
7 to 9	20	40	80	-
10 to 12	30	55	110	165
13 to 15	35	70	140	210
16 to 18	42	85	170	225
19 to 21	50	100	200	300
22 to 24	-	115	230	345
25 to 27	-	130	260	390
28 to 30	-	145	290	435
31 to 33	-	160	320	480
34 to 36	-	175	350	525
37 to 39	-	190	380	570
40 to 42	-	205	410	615
43 to 45	-	220	440	660
46 to 48	-	235	470	705
49 to 51	-	250	500	750
52 to 54	-	265	530	795
55 to 57	-	280	560	840
58 to 60	-	295	590	885
61 to 63	-	310	620	930
64 to 66	-	325	650	975
67 to 69	-	340	680	1020
70 to 72	-	355	710	1065

The use of low, medium, medium-high and high rates are based on the professional judgment of the applicator as to what constitutes a low, medium or high infestation. Higher rates tend to provide longer residual and control of more difficult to control insects. See **Target Pest** table for additional information in choosing the amount of product to apply.

ADDITIONAL DIRECTIONS FOR APPLICATION IN TREES			
Tree Tissue	Target Pest	Application Rate Range ¹	Comments
Seed and Cone	[Pine] Coneworm (<i>Dioryctria</i> spp.) Cone Beetle ^[2] (<i>Conophtho</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	Aphid ^[2] Bagworm Cankerworm Casebearer ^[2] Conifer Mites ^[2] Eastern Oak Looper Elm Spanworm Fall Webworm Japanese Beetle Gypsy Moth Honeylocust Plant Bug Leafminers (such as <i>Lepidoptera</i> , <i>Coleoptera</i> , <i>Hymenoptera</i>) Linden Looper Mimosa Webworm Oak Worm Pine Needle Miner ^[2] Pine Needle Scale Poplar Tentmaker ^[2] Red Palm Mite Sawfly (such as Elm, Pine) Tussock Moth Variable Oakleaf Caterpillar ^[2] Yellownecked Caterpillar ^[2]	Low to High	Apply at least 2-3 weeks before the pest has historically been present. Consult with local extension agent for when this will occur in your area. [For more uniform distribution in the canopy (foliage), dilute product with equivalent 1 to 9 volumes of water prior to application.]
	Tent Caterpillars (such as Eastern, Forest, Pacific, and Western) Western Spruce Budworm Winter Moth	Low to Medium	
Shoot, Stem Trunk and Branch	Flatheaded Borers (such as adult and larvae of [Bronze Birch Borer ^[2] ,] Emerald Ash Borer[, and Two-lined Chestnut Borer ^[2]])	Medium to High	For optimal control, apply at least 30 days before historical egg hatch or adult flight and to trees whose vascular tissue is not damaged.
	Carpenterworm ^[2] Clearwing Borers (such as Ash and Sequoia Pine Pitch Tube Moth) Cottonwood Twig Borer Zimmerman Moth	Low to High	[For more uniform distribution in the canopy (foliage), dilute product with equivalent 1 to 9 volumes of water prior to application.]
	Ambrosia Beetles [(such as Polyphagous Shot Hole Borer, <i>Euwallacea fornicatus</i>) ^[3]] [Cynipid] Gall Wasp ^[2] [(such as Banyan Stem Gall Wasp)] Pinewood Nematode Roundheaded Borers (excluding Asian Longhorn Beetles) Scolytids [(bark beetles) Black Turpentine Beetle, <i>Ips</i> Engraver Beetles, Mountain Pine Beetle, Southern Pine Beetle, Spruce Beetle, Walnut Twig Beetle, Western Pine Beetle]	Medium to High	If vascular tissue is damaged or plugged by insect galleries, nematodes or fungi, uniform treatment and control may not be achieved.

¹Use medium to high rates for remedial and longer residual control.

²Not registered for use in California.]

³Use of EMAMECTIN BENZOATE 4% SL to control this insect may not result in the control of diseases vectored by the insect.]

COMPATIBILITY

Do not mix EMAMECTIN BENZOATE 4% SL before injection with other products such as insecticides, fungicides, plant growth regulators, surfactants, adjuvants, and fertilizers whose labels indicate that it should not be mixed with EMAMECTIN BENZOATE 4% SL. If applicator has no prior experience with a particular tank mix; check physical compatibility by making a small clear jar test using correct proportions to be tank mixed.

RESTRICTION

Do not apply to trees that may be harvested for food consumption by humans or used in animal feed.

[OPTIONAL USE DIRECTIONS "B"]

USE RATES

Use as formulated or dilute with equivalent 1 to 3 volumes of water or more, as necessary.

Tree Diameter (DBH) (Inches)	Low mL product/tree	Medium mL product/tree	High mL product/tree
4 to 6	15	25	50
7 to 9	20	40	80
10 to 12	30	55	110
13 to 15	35	70	140
16 to 18	42	85	170
19 to 21	50	100	200
22 to 24	-	115	230
25 to 27	-	130	260
28 to 30	-	145	290
31 to 33	-	160	320
34 to 36	-	175	350
37 to 39	-	190	380
40 to 42	-	205	410
43 to 45	-	220	440
46 to 48	-	235	470
49 to 51	-	250	500
52 to 54	-	265	530
55 to 57	-	280	560
58 to 60	-	295	590
61 to 63	-	310	620
64 to 66	-	325	650
67 to 69	-	340	680
70 to 72	-	355	710

The use of low, medium, and high rates are based on the professional judgment of the applicator as to what constitutes a low, medium or high infestation. Higher rates tend to provide longer residual and control of more difficult to control insects. See **Target Pest** table for additional information in choosing the amount of product to apply.

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Bud and Leaf	Aphid ^[2] Bagworm Cankerworm Casebearer ^[2] Conifer Mites ^[2] Eastern Oak Looper Elm Spanworm Fall Webworm Japanese Beetle Gypsy Moth Honeylocust Plant Bug Leafminers (such as <i>Lepidoptera</i> , <i>Coleoptera</i> , <i>Hymenoptera</i>) Linden Looper Mimosa Webworm Oak Worm Pine Needle Miner ^[2] Pine Needle Scale Poplar Tentmaker ^[2] Red Palm Mite Sawfly (such as Elm, Pine) Tussock Moth Variable Oakleaf Caterpillar ^[2] Yellownecked Caterpillar ^[2]	Low to High	Apply at least 2-3 weeks before the pest has historically been present. Consult with local extension agent for when this will occur in your area. [For more uniform distribution in the canopy (foliage), dilute product with equivalent 1 to 9 volumes of water prior to application.]
	Tent Caterpillars (such as Eastern, Forest, Pacific, and Western) Western Spruce Budworm Winter Moth	Low to Medium	
Shoot, Stem Trunk and Branch	Flatheaded Borers (such as adult and larvae of [Bronze Birch Borer ^[2] ,] Emerald Ash Borer[, and Two-lined Chestnut Borer ^[2]])	Medium to High	For optimal control, 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 (foliage), dilute product with equivalent 1 to 9 volumes of water prior to application.]
	Carpenterworm ^[2] Clearwing Borers (such as Ash and Sequoia Pine Pitch Tube Moth) Cottonwood Twig Borer Zimmerman Moth	Low to High	
	Ambrosia Beetles [(such as Polyphagous Shot Hole Borer, <i>Euwallacea fornicatus</i>) ^[3]] [Cynipid] Gall Wasp ^[2] [(such as Banyan Stem Gall Wasp)] Pinewood Nematode Roundheaded Borers (excluding Asian Longhorn Beetles) Scolytids [(bark beetles) Black Turpentine Beetle, <i>Ips</i> Engraver Beetles, Mountain Pine Beetle, Southern Pine Beetle, Spruce Beetle, Walnut Twig Beetle, Western Pine Beetle]	Medium to High	If vascular tissue is damaged or plugged by insect galleries, nematodes or fungi, uniform treatment and control may not be achieved.

¹Use medium to high rates for remedial and longer residual control.²Not registered for use in California.]³Use of EMAMECTIN BENZOATE 4% SL to control this insect may not result in the control of diseases vectored by the insect.]**COMPATIBILITY**

Do not mix EMAMECTIN BENZOATE 4% SL before injection with other products such as insecticides, fungicides, plant growth regulators, surfactants, adjuvants, and fertilizers whose labels indicate that it should not be mixed with EMAMECTIN BENZOATE 4% SL. If applicator has no prior experience with a particular tank mix; check physical compatibility by making a small clear jar test using correct proportions to be tank mixed.

RESTRICTION

Do not apply to trees that may be harvested for food consumption by humans or used in animal feed.

[OPTIONAL USE DIRECTIONS "C"]**USE RATES^[1]**

Use as formulated or dilute with equivalent 1 to 9 volumes of water.

Tree Diameter (DBH) (Inches)	Low* mL product/tree	Medium mL product/tree	High mL product/tree
4 to 6	10 - 20	20 - 45	45 - 60
7 to 9	20 - 30	30 - 65	65 - 90
10 to 12	25 - 35	35 - 90	90 - 120
13 to 15	30 - 45	45 - 110	110 - 150
16 to 18	40 - 55	55 - 135	135 - 180
19 to 21	50 - 60	60 - 160	160 - 210
22 to 24	55 - 70	70 - 180	180 - 240
25 to 27	65 - 80	80 - 200	200 - 270
28 to 30	70 - 90	90 - 225	225 - 300
31 to 33	80 - 100	100 - 250	250 - 330
34 to 36	85 - 110	110 - 270	270 - 360
37 to 39	90 - 120	120 - 290	290 - 390
≥40	120 - 240	240 - 300	300 - 400

[¹Not for use in the State of California.]

*In Palms always use the low ml. product/tree.

[CALIFORNIA USE RATES

Use as formulated or dilute with equivalent 1 to 9 volumes of water.

Tree Diameter (DBH) (Inches)	Low* mL product/tree	Medium mL product/tree	High mL product/tree
4 to 6	15 - 20	20 - 45	45 - 60
7 to 9	20 - 30	30 - 65	65 - 90
10 to 12	30 - 35	35 - 90	90 - 120
13 to 15	35 - 45	45 - 110	110 - 150
16 to 18	42 - 55	55 - 135	135 - 180
19 to 21	50 - 60	60 - 160	160 - 210
22 to 24	-	115 - 180	180 - 240
25 to 27	-	130 - 200	200 - 270
28 to 30	-	145 - 225	225 - 300
31 to 33	-	160 - 250	250 - 330
34 to 36	-	175 - 270	270 - 360
37 to 39	-	190 - 290	290 - 390
≥40	-	205 - 300	300 - 400

*In Palms always use the low ml. product/tree.

The use of low, medium, and high rates are based on the professional judgment of the applicator as to what constitutes a low, medium or high infestation. Higher rates tend to provide longer residual and control of more difficult to control insects. See **Target Pest** table for additional information in choosing the amount of product to apply.

If the tree canopy has been significantly reduced, i.e., excessive tree pruning or turning trees into a hedge, reduce dose accordingly.

ADDITIONAL DIRECTIONS FOR APPLICATION IN TREES			
Tree Tissue	Target Pest	Application Rate Range ¹	Comments
Seed and Cone	[Pine] Coneworm (<i>Dioryctria</i> spp.) Cone Beetle ^[2] (<i>Conophtho</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	Aphid ^[2] Bagworm Cankerworm Casebearer ^[2] Conifer Mites ^[2] Eastern Oak Looper Elm Spanworm Fall Webworm Japanese Beetle Gypsy Moth Honeylocust Plant Bug Leafminers (such as <i>Lepidoptera</i> , <i>Coleoptera</i> , <i>Hymenoptera</i>) Linden Looper Mimosa Webworm Oak Worm Pine Needle Miner ^[2] Pine Needle Scale Poplar Tentmaker ^[2] Red Palm Mite Sawfly (such as Elm, Pine) Tussock Moth Variable Oakleaf Caterpillar ^[2] Yellownecked Caterpillar ^[2]	Low to High	Apply at least 2-3 weeks before the pest has historically been present. Consult with local extension agent for when this will occur in your area. [For more uniform distribution in the canopy (foliage), dilute product with equivalent 1 to 9 volumes of water prior to application.]
	Tent Caterpillars (such as Eastern, Forest, Pacific, and Western) Western Spruce Budworm Winter Moth	Low to Medium	
Shoot, Stem Trunk and Branch	Flatheaded Borers (such as adult and larvae of [Bronze Birch Borer ^[2] ,] Emerald Ash Borer[, and Two-lined Chestnut Borer ^[2]])	Medium to High	For optimal control, apply at least 30 days before historical egg hatch or adult flight and to trees whose vascular tissue is not damaged.
	Carpenterworm ^[2] Clearwing Borers (such as Ash and Sequoia Pine Pitch Tube Moth) Cottonwood Twig Borer Zimmerman Moth	Low to High	[For more uniform distribution in the canopy (foliage), dilute product with equivalent 1 to 9 volumes of water prior to application.]
	Ambrosia Beetles [(such as Polyphagous Shot Hole Borer, <i>Euwallacea fornicatus</i>) ^[3]] [Cynipid] Gall Wasp ^[2] [(such as Banyan Stem Gall Wasp)] Pinewood Nematode Roundheaded Borers (excluding Asian Longhorn Beetles) Scolytids [(bark beetles) Black Turpentine Beetle, <i>Ips</i> Engraver Beetles, Mountain Pine Beetle, Southern Pine Beetle, Spruce Beetle, Walnut Twig Beetle, Western Pine Beetle]	Medium to High	If vascular tissue is damaged or plugged by insect galleries, nematodes or fungi, uniform treatment and control may not be achieved.

¹Use medium to high rates for remedial and longer residual control.

²Not registered for use in California.]

³Use of EMAMECTIN BENZOATE 4% SL to control this insect may not result in the control of diseases vectored by the insect.]

COMPATIBILITY

Do not mix EMAMECTIN BENZOATE 4% SL before injection with other products such as insecticides, fungicides, plant growth regulators, surfactants, adjuvants, and fertilizers whose labels indicate that it should not be mixed with EMAMECTIN BENZOATE 4% SL. If applicator has no prior experience with a particular tank mix; check physical compatibility by making a small clear jar test using correct proportions to be tank mixed.

RESTRICTION

Do not apply to trees that may be harvested for food consumption by humans or used in animal feed.

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 Disposal: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Clean container 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 1/4 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, if allowed by State and local authorities Stay out of smoke from burning container.

Container Handling [For Bulk and Mini-Bulk Containers – 55 gals.]: Refillable container. Refill this container with pesticide only. Do not use this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by State and local authorities.

Nonrefillable container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

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 ROTAM AGROCHEMICAL CO., LTD. or Seller.

To the extent permitted by applicable law, Buyer and User agree to hold ROTAM AGROCHEMICAL CO., LTD. and Seller harmless for any claims relating to such factors.

ROTAM AGROCHEMICAL CO., LTD. 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 ROTAM AGROCHEMICAL CO., LTD., and, (2) Buyer and User assume the risk of any such use. TO THE EXTENT PERMITTED BY APPLICABLE LAW ROTAM AGROCHEMICAL CO., LTD. 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 ROTAM AGROCHEMICAL CO., LTD. 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 ROTAM AGROCHEMICAL CO., LTD. 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 ROTAM AGROCHEMICAL CO., LTD. OR SELLER, THE REPLACEMENT OF THE PRODUCT.

ROTAM AGROCHEMICAL CO., LTD. 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 ROTAM AGROCHEMICAL CO., LTD.

Pages 10-15: Sub-Label A:**ABN: BRANDT enTREE EB****Use in BRANDT enTREE Ready-to-Use (RTU) Low Pressure Injection Technology**

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

Active Ingredient:	By Wt.
Emamectin Benzoate ¹	4.0%
Other Ingredients:	96.0%
Total:	100.0%

¹CAS No. 155569-91-8. Contains 0.36 lb. emamectin per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

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.)

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call poison control center or doctor immediately for treatment advice. • Have person sip glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN:	
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 (<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.	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOTLINE NUMBER	
For 24-Hour Medical Emergency Assistance (Human or Animal), call 1-800-222-1222 . For Chemical Emergency Assistance (Spill, Leak, Fire or Accident), call CHEMTREC at 1-800-424-9300 .	
[See [complete] [additional] [First Aid] [Precautionary Statements] [and] Directions For Use inside booklet.]	

EPA Reg. No. 83100-35

EPA Est. No.

Distributed By:

BRANDT Consolidated, Inc.
2935 South Koke Mill Road
Springfield, IL 62711
www.brandt.co
800-300-6559

NET CONTENTS: [25 total mls. devices
(50 x 25 mls., 48 x 25 mls., 24 x 25 mls., 12 x 25 mls., 6 x 25, 4 x 25 mls.)]

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. 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.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

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 mils
- Shoes and socks
- Protective eyewear

ENVIRONMENTAL HAZARDS

This product is highly toxic to fish, mammals and aquatic invertebrates. Do not apply directly to water, 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. 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 treatment area.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame. Do not mix or allow to come into contact with an oxidizing agent. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

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.

PRODUCT INFORMATION

BRANDT enTREE EB is for the control of mature and immature insect and mite pests of deciduous, 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). BRANDT enTREE EB contains the active ingredient emamectin benzoate which is a glycoside insecticide, and is formulated to translocate in the tree's vascular system when injected. It is active against immature and adult stages of arthropods, and its primary route of toxicity is through ingestion. This product must be placed into active sapwood and will actively control pests for up to two years.

USE DIRECTIONS

Factors Affecting Application: Applications are most effective when made prior to insect infestation, and in conjunction with good cultural management practices. The species and health of the tree, as well as local environmental conditions, will determine the rate of uptake when using BRANDT enTREE Ready-to-Use (RTU) low-pressure injection technology.

Environmental Conditions: This technology relies on the natural uptake rate of the tree; and thus, factors that affect the transpiration rate can greatly affect the uptake rate. Transpiration is dependent on a number of factors, such as soil moisture, soil and ambient temperature, and time of day. For optimum uptake, apply when soil moisture is adequate and soil temperatures are above 45°F. Preferred conditions for injections are morning to early afternoon hours, with warm temperatures (55°-85°F/13°-30°C), accompanied by low humidity, clear skies and a slight breeze. Sunny conditions along with moist soil and a well-hydrated tree will also increase the transpiration rate and will therefore improve uptake. Conversely, cool temperatures, cloudy and/or evening skies and trees under moisture stress will slow down the rate of uptake. Extreme heat and cold temperatures will adversely affect rates as well.

Trees that have health vascular systems will have correspondingly higher uptake rates. Trees in advanced stages of pest development may not respond to treatment, as vascular plugging, caused by disease inhibits transpiration. If the BRANDT enTREE RTU device has not started to absorb within one hour, consider removing the device (following the proper sequence provided in the removal instructions) and; drill a new hole in a different area of the trunk and inject again. The injection devices need to be evenly placed at points on the trunk free of visible decay areas and wounds from the point of injection to where branching begins. If the BRANDT enTREE RTU device has not started to absorb within one hour after the second attempt, the vascular system of the tree may be too compromised for treatment and there is significant decay in that local injection area.

DO NOT inject trees that are drought stressed. Applications to drought or heat stressed trees may result in injury to tree tissue, poor treatment and subsequently poor control. Avoid treating trees that are moisture stressed or suffering from herbicide damage.

DO NOT inject trees that are in a state of dormancy.

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 pest damage (larval galleries, defoliation, leaf mining, etc.) an effective and uniform application of BRANDT enTREE EB may be difficult to achieve and subsequent control may be poor. For optimum results, treat at least 2 to 3 weeks before pests historically infest the host tree. As a result of systemic movement and longevity of BRANDT enTREE EB in trees, the 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.

BRANDT enTREE EB may also be effective as a remedial treatment against some pests, such as those with slower development or if multiple life stages are susceptible to the active ingredient. Pests that attack the stem and branches such as clearwing borers may disrupt vascular tissue resulting in poor distribution in an infested tree. However, control may be achieved if larvae come into contact or feed on BRANDT enTREE EB treated tissues.

APPLICATION INSTRUCTIONS

Injection dosages are based on the Diameter (inches or centimeters) of the tree at Breast Height ("DBH"). DBH is the outside bark diameter of the trunk at 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, and dividing circumference (in inches) by three (3). To determine DBH for multi-stemmed woody ornamentals, measure the DBH for each stem or branch and add together for the total DBH per tree (**Figure 1**).

Number of BRANDT enTREE RTU Injection Devices Required for Treatment: Take the DBH of the tree and divide by five (5) to determine the appropriate number of BRANDT enTREE RTU devices to adequately treat the tree at the desired application rate. **DO NOT** treat newly established trees less than 5" DBH or 15" in circumference.

In the event that the tree has multiple trunks that separate less than three (3) feet from the ground (i.e., avocado, citrus, peach, etc.) each individual trunk must be treated separately to ensure equally homogenous distribution of solution to all parts of the tree. In this instance, each individual trunk must be measured in the same way as if the trunk were standing individually (**Figure 1**).

Refer to the **Application Rate/Number of RTU Injection Devices** chart. **DO NOT** exceed calculated number of RTU injection devices per tree as injury may occur.

Preparing the Holes: To ensure an equal and homogenous delivery of active ingredient to all parts of the tree's branching structure, space the required number of holes evenly around the circumference of the tree. Hole placement can range from lowest point at the roof flare to highest point of chest height (approximately 4.5 ft. [1.368m] above the ground). Injection holes must be at least 20" (50.80 cm) below the lowest branch on the trunk. The preferred method is to inject at the base of the tree, within 12" (30.48 cm) of the soil. Prepare injection sites in healthy wood free from any defects such as old wounds or decayed areas. Avoid any placement of devices in between the root flares where there is tight compression of the bark and cambium tissue.

Using an electric drill, select a 15/64" (.58420 cm) fast spiral drill bit (for optimal performance, a high-helix drill bit is recommended). It is necessary to drill holes into the tree deep enough to reach the tree's vascular system for translocation of the active ingredient throughout the tree. Make injection holes at least ½ to ¾ inch into healthy xylem (white wood) with actual depth up to 2 inches (5.08 cm) or more from the outer trunk surface depending upon the tree species and outer bark thickness. For conifer species with high resin pressure, drill holes higher on the trunk (36-48" or 91.44-121.92 cm) and to a deeper drill depth of 2+ inches (5.08+ cm).

For optimal device performance and to minimize leakage and improve holding capacity of the injector, be sure to:

- (1) use clean, sharp drill bits;
- (2) slightly angle depth of hole downwards; and
- (3) make one clean drill entrance into the tree (i.e., avoid multiple in-and-out motions of drill bit in hole) to reduce shavings residual left inside the hole. Follow good application practices by disinfecting drill bits prior to use on each tree to minimize the spread of disease where known infections occur (**Figure 2**).

Inserting the Connector: Once the injection site is drilled, insert the longer and thicker part of the connector into the tree hole, and secure its placement by push and twist of hand, or by gently tapping the connector with a nylon hammer or rubber mallet. The connector shall only be inserted to the point where it fits snugly in the hole. **DO NOT** force the connector too deep into the hole. Be sure to leave approximately ½" (1.27 cm) of open chamber at the end of the connector to allow the solution to collect and be pulled through the vascular system of the tree (**Figure 3**).

Connecting the RTU Injection Device: Remove the colored device cap and connect the RTU injection device to the connector by firmly pushing the connector through the membrane of the device top. To ensure the device is securely inserted, slightly twist and gently force the RTU injection device until it snaps into final position. The RTU Injection device can be placed upright, sideways, or upside-down on the connector depending upon the placement of the connector on the tree (**Figure 4**).

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 due to resin flow into the opening.

Removing the RTU Injection Device: When the RTU injection device is emptied:

- (1) Remove the device from its connector; then
- (2) Remove the connector from the tree.

Gently shake the device to ensure all contents have been injected. If there is remaining material, re-insert the connector and connect the device for further uptake.

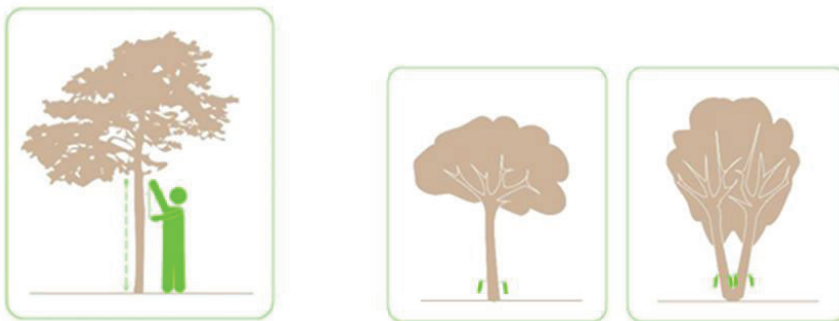
NOTE: The RTU injection device membrane will re-seal itself to avoid and leakage or spillage until it is re-penetrated with the connector (**Figure 5**).

It is not necessary to treat the drill holes with wound paint or other sealing compounds.

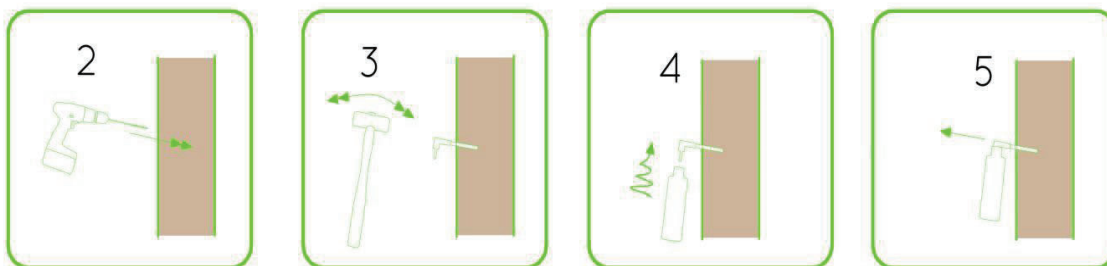
Retreatment:

At the time of initial application, make note of the level of health of each tree. Re-evaluate level in treated trees at 12-month intervals to determine the need for treatment. Preventative applications should be considered 12-36 months after the initial injection. Trees in high pest pressure areas or highly valued trees should be evaluated for retreatment 12 months after each treatment. Follow application procedures described above for repeat injections; new drill holes will be required for subsequent treatments. Stagger the holes equally in subsequent applications to ensure proper intake.

1. *When making a determination for the site of the application using the BRANDT enTREE RTU injection device, consideration should be taken for trunk configuration.*



- A. *Single trunk trees: the BRANDT enTREE RTU device can be injected anywhere from the root flare to at least 20" (50.8 cm) below the branches, preferably at the base of the tree, within 12" (30.48 cm) of the soil.*
- B. *Multi-stem trees: be sure to calculate the total diameter of the stems combined and install the devices evenly between the stems, preferably at the base of the tree, within 12" (30.48 cm) of the soil.*



2. *Using an electric drill, select a 15/64" (.58420 cm) fast-spiral high-helix drill bit and drill a hole 2" (5.08 cm) deep slightly angled downwards. Hole depth will vary depending on bark thickness. Hole placement can range from injection at the root flare to chest height (approximately 4.5 ft. [1.368 m] above the ground) remaining at least 20" (50.8 cm) below lowest branch. The preferred method is to inject at the base of the tree within 12" (30.48 cm) of the soil.*
3. *Insert the longer and thicker branch of the connector into tree hole and secure its placement by push and twist of hand OR by gently tapping the connector with a nylon hammer or rubber mallet.*
4. *Remove colored cap and connect RTU injection device to the connector by firmly pushing the connector through the membrane of the device top. To ensure the device is securely inserted, slightly twist and snap the device into final position.*
5. *When the device is emptied, (1) first remove the device from its connector and then (2) remove the connector from the tree. Gently shake the device to ensure all contents have been injected. If there is remaining material, re-insert the connector and connect device for further uptake. Rate of uptake will vary and there is no need to cover the holes- the tree will heal naturally. **Note:** The injection device membrane will re-seal itself to avoid any leakage or spillage until it is re-penetrated with the connector.*

USE RATES – 25 mL enTREE RTU Injector

Application Rate/RTU Injector Table			
Tree Diameter (DBH) (Inches)	Circumference (Inches)	Number of RTU Injectors	Application Rate (mLs)
4 to 6	12 to 18	1	25
7 to 9	21 to 27	2	50
10 to 12	30 to 36	3	75
13 to 15	39 to 45	3	75
16 to 18	48 to 54	4	100
19 to 21	57 to 63	4	100
22 to 24	66 to 72	5	125
25 to 27	75 to 81	6	150
28 to 30	84 to 90	6	150
31 to 33	93 to 99	7	175
34 to 36	102 to 108	7	175
37 to 39	111 to 117	8	200
40 to 42	120 to 126	9	225
43 to 45	129 to 135	9	225
46 to 48	138 to 144	10	250
49 to 51	147 to 153	10	250
52 to 54	156 to 162	11	275
55 to 57	165 to 171	12	300
58 to 60	174 to 180	12	300
61 to 63	183 to 189	13	325
64 to 66	192 to 198	13	325
67 to 69	201 to 207	14	350
70 to 72	210 to 216	15	375

Tree Tissue	Target Pest	Comments
Seed and Cone	Pine Coneworm (<i>Dioryctria</i> spp.) Cone Beetle ¹ (<i>Conophthora</i> spp.) Pine Cone Seed Bug (suppression of <i>Leptoglossus</i> and <i>Tetyra</i> spp. in the year of treatment)	For optimal control, apply in the fall for early season pests or at least 30 days before insect attack.
Bud and Leaf	Aphid ¹ Bagworm Fall Webworm Japanese Beetle Gypsy Moth Mimosa Webworm Oak Worm Tussock Moth Leafminers (such as <i>Lepidoptera</i> , <i>Coleoptera</i> , <i>Hymenoptera</i>) Honeylocust Plant Bug Pine Needle Scale Red Palm Mite Sawfly (such as Elm, Pine) Tent Caterpillars (such as Eastern, Forest, Pacific, and Western) Western Spruce Budworm Winter Moth	Apply at least 2-3 weeks before the pest has historically been present. Consult with local extension agent for when this will occur in your area.
Shoot, Stem Trunk and Branch	Flatheaded Borers (such as adult and larvae of Bronze Birch Borer ¹ , Emerald Ash Borer, and Two-lined Chestnut Borer ¹) Clearwing Borers (such as Ash and Sequoia Pine Pitch Tube Moth) Ambrosia Beetles Roundheaded Borers (excluding Asian longhorn beetles) Cynipid Gall Wasp ¹ Pinewood Nematode	For optimal control, apply at least 30 days before historical egg hatch or adult flight and to trees whose vascular tissue is not damaged. If vascular tissue is damaged or plugged by insect galleries, nematodes or fungi, uniform treatment and control may not be achieved.

¹Not registered for use in California.**RESTRICTION**

Do not apply to trees that may be harvested for food consumption by humans or used in animal feed.

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 Disposal: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available.

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 BRANDT Consolidated, Inc.

To the extent permitted by applicable law, Buyer and User agree to hold BRANDT Consolidated, Inc. and Seller harmless for any claims relating to such factors.

BRANDT Consolidated, 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 BRANDT CONSOLIDATED, INC., and, (2) Buyer and User assume the risk of any such use. TO THE EXTENT PERMITTED BY APPLICABLE LAW, BRANDT CONSOLIDATED, 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 BRANDT Consolidated, 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 BRANDT CONSOLIDATED, 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 BRANDT CONSOLIDATED, INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT.

BRANDT Consolidated, 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 BRANDT Consolidated, Inc.

EMAMECTIN BENZOATE	GROUP	6	INSECTICIDE
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**Pages 16-20: Sub-Label B:
ABN: Mecta-Cide**

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

Active Ingredient:	By Wt.
Emamectin Benzoate ¹	4.0%
Other Ingredients:	<u>96.0%</u>
Total:	100.0%

¹CAS No. 155569-91-8. Contains 0.36 lb. emamectin per gallon.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

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.)

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call poison control center or doctor immediately for treatment advice. • Have person sip glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN:	
<p>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 (<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>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOTLINE NUMBER	
For 24-Hour Medical Emergency Assistance (Human or Animal), call 1-800-222-1222 . For Chemical Emergency Assistance (Spill, Leak, Fire or Accident), call CHEMTREC at 1-800-424-9300 .	

[See [complete] [additional] [First Aid] [Precautionary Statements] [and] Directions For Use inside booklet.]

EPA Reg. No. 83100-35

EPA Est. No.

Distributed By:

J. J. Mauget Co.
5435 Peck Rd.
Arcadia, CA 91006

NET CONTENTS:

[24 capsules plus 24 feeder tubes per carton
 _____ 24 capsules @ 0.150 fl. oz. (5 mL) each, 3.6 fl. oz. (120 mL) net
 _____ 24 capsules @ 0.225 fl. oz. (7.5 mL) each, 5.4 fl. oz. (180 mL) net

Shipping box: 12 cartons as above.

_____ 288 capsules @ 0.150 fl. oz. (5 mL) each, 43.0 fl. oz. (1,440 mL) net
 _____ 288 capsules @ 0.225 fl. oz. (7.5 mL) each, 64.8 fl. oz. (2,160 mL) net]

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. 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.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

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 mils
- Shoes and socks
- Protective eyewear

ENVIRONMENTAL HAZARDS

This product is highly toxic to fish, mammals and aquatic invertebrates. Do not apply directly to water, 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. 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 treatment area.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame. Do not mix or allow to come into contact with an oxidizing agent. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

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.

PRODUCT INFORMATION

Mecta-Cide is for control of mature and immature insect and mite pests of deciduous, 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). Mecta-Cide 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

1. THE MAUGET SYSTEM

- (A) Mauget compressible micro-injector 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 (Hammer)
(D) Tape Measure
(E) Personal Protective Equipment (see above)

3. NUMBER OF MICRO-INJECTORS

Using 5 mL Capsules:

Measure the tree at chest height in inches. If measuring the circumference, divide this number by three (3) to determine the number of micro-injectors needed. If measuring the diameter, divide this number by one (1) to determine the number of micro-injectors needed. If the number of micro-injectors results in a fraction, use the next higher integer.

Using 7.5 mL Capsules:

Measure the tree at chest height in inches. If measuring the circumference, divide this number by four and a half (4.5) to determine the number of micro-injectors needed. If measuring the diameter, divide this number by one and a half (1.5) to determine the number of micro-injectors needed. If the number of micro-injectors results in a fraction, use the next higher integer.

It is preferred to apply the injector units around the tree at the root flare however, multiple rings may be used up to breast height. Multiple rings should be spaced 4 - 6 inches above or below one another and should be alternated. Good injection practices should be followed.

4. PRESSURIZING THE MICRO-INJECTOR

Place the micro-injector on a firm flat surface and compress by foot force or hand force or under some conditions with a plastic or rubber mallet.

5. DRILLING THE TREE HOLE

Pre-drill spaced injection sites at a downward angle at the root flair (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. 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 as well as mini-micro insertion tool prior to use on each tree.

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 MICRO-INJECTOR AND FEEDER TUBE

Place by hand, the feeder tube's flange end, with the flange notch upward, into the micro-injector insert hole of a compressed upright micro-injector capsule. Push the flange end of the feeder tube flush with the membrane 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 micro-injector capsule, into the pre-drilled tree injection hole. Tap the outer side of the micro-injector capsule directly behind the feeder tube with a plastic mallet while supporting the microinjector with the other hand. This action will simultaneously seat the feeder tube in the injection hole while breaking the micro-injector membrane for releasing the micro-injector contents into the feeder tube and into the tree.

9. REMOVAL

Uptake in the tree usually occurs within several minutes. Micro-Injectors may be temporarily rotated in place to see if any liquid is left. When empty, turn the micro-injectors upside down for one minute before removal. Applicators must remove micro-injectors promptly after treatment. Empty micro-injectors must not be left on the tree. The health and species of the tree, and local environmental conditions will determine the rate of uptake. Trees in advanced stages of insect infestations may not respond to treatment. If the micro-injector capsule does not completely empty within a few hours, invert and carefully remove the micro-injector 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.

ENVIRONMENTAL CONDITIONS

This technology relies on the natural uptake rate of the tree; and thus, factors that affect the transpiration rate can greatly affect the uptake rate.

Transpiration is dependent on a number of factors, such as soil moisture, soil and ambient temperature, and time of day. For optimum uptake, apply when soil moisture is adequate and soil temperatures are above 45°F. Preferred conditions for injections are morning to early afternoon hours, with warm temperatures (55°-85°F/13°-30°C), accompanied by low humidity, clear skies and a slight breeze.

Sunny conditions along with moist soil and a well-hydrated tree will also increase the transpiration rate and will therefore improve uptake.

Conversely, cool temperatures, cloudy and/or evening skies and trees under moisture stress will slow down the rate of uptake. Extreme heat and cold temperatures will adversely affect rates as well.

Trees that have healthy vascular systems will have correspondingly higher uptake rates. Trees in advanced stages of pest development may not respond to treatment, as vascular plugging, caused by disease inhibits transpiration.

DO NOT inject trees that are drought stressed. Applications to drought or heat stressed trees may result in injury to tree tissue, poor treatment and subsequently poor control. Avoid treating trees that are moisture stressed or suffering from herbicide damage.

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 pest damage (larval galleries, defoliation, leaf mining, etc.) an effective and uniform application of Mecta-Cide may be difficult to achieve and subsequent control may be poor.

For optimum results, treat at least 2 to 3 weeks before pests historically infest the host tree. As a result of systemic movement and longevity of Mecta-Cide in trees, the 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.

Mecta-Cide may also be effective as a remedial treatment against some pests, such as those with slower development or if multiple life stages are susceptible to the active ingredient. Pests that attack the stem and branches, such as clearwing borers may disrupt vascular tissue resulting in poor distribution in an infested tree. However, control may be achieved if larvae come into contact or feed on Mecta-Cide treated tissues.

FACTORS AFFECTING APPLICATION

Applications are most effective when made prior to insect infestation, and in conjunction with good cultural management practices. The species and health of the tree, as well as local environmental conditions, will determine the rate.

RESTRICTION

Do not apply to trees that may be harvested for food consumption by humans or used in animal feed.

FOR APPLICATION IN TREES		
Tree Tissue	Target Pest	Comments
Seed and Cone	[Pine] Coneworm (<i>Dioryctria</i> spp.) Cone Beetle ^[2] (<i>Conophthora</i> spp.) Pine Cone Seed Bug (suppression of <i>Leptoglossus</i> and <i>Tetyra</i> spp. in the year of treatment)	For optimal control, apply in the fall for early season pests or at least 30 days before insect attack.
Bud and Leaf	Aphid ^[2] Bagworm Cankerworm Casebearer ^[2] Conifer Mites ^[2] Eastern Oak Looper Elm Spanworm Fall Webworm Japanese Beetle Gypsy Moth Honeylocust Plant Bug Leafminers (such as <i>Lepidoptera</i> , <i>Coleoptera</i> , <i>Hymenoptera</i>) Linden Looper Mimosa Webworm Oak Worm Pine Needle Miner ^[2] Pine Needle Scale Poplar Tentmaker ^[2] Red Palm Mite Sawfly (such as Elm, Pine) Tussock Moth Variable Oakleaf Caterpillar ^[2] Yellownecked Caterpillar ^[2] Tent Caterpillars (such as Eastern, Forest, Pacific, and Western) Western Spruce Budworm Winter Moth	Apply at least 2-3 weeks before the pest has historically been present. Consult with local extension agent for when this will occur in your area.
Shoot, Stem Trunk and Branch	Flatheaded Borers (such as adult and larvae of [Bronze Birch Borer ^[2] ,] Emerald Ash Borer[, and Two-lined Chestnut Borer ^[2]]) Carpenterworm ^[2] Clearwing Borers (such as Ash and Sequoia Pine Pitch Tube Moth) Cottonwood Twig Borer Zimmerman Moth Ambrosia Beetles [(such as Polyphagous Shot Hole Borer, Euwallacea fornicatus) ^[3]] [Cynipid] Gall Wasp ^[2] [(such as Banyan Stem Gall Wasp)] Pinewood Nematode Roundheaded Borers (excluding Asian Longhorn Beetles) Scolytids [(bark beetles) Black Turpentine Beetle, <i>Ips</i> Engraver Beetles, Mountain Pine Beetle, Southern Pine Beetle, Spruce Beetle, Walnut Twig Beetle, Western Pine Beetle]	For optimal control, apply at least 30 days before historical egg hatch or adult flight and to trees whose vascular tissue is not damaged. If vascular tissue is damaged or plugged by insect galleries, nematodes or fungi, uniform treatment and control may not be achieved.

^[2]Not registered for use in California.]

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 Disposal: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available.

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 J. J. MAUGET CO. or Seller.

To the extent permitted by applicable law, Buyer and User agree to hold J. J. MAUGET CO. and Seller harmless for any claims relating to such factors.

J. J. MAUGET CO. 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 J. J. MAUGET CO., and, (2) Buyer and User assume the risk of any such use. TO THE EXTENT PERMITTED BY APPLICABLE LAW J. J. MAUGET CO. 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 J. J. MAUGET CO. be liable for any incidental, consequential or special damages resulting from the use or handling of this product.

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J. J. MAUGET CO. 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 J. J. MAUGET CO.