UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

August 10, 2022

Ronald E. Hampton, Ph.D.
Senior Regulatory Product Manager,
Syngenta Crop Protection, LLC
P. O. Box 18300
Greensboro, NC 27419

Subject: Registration Review Label Mitigation for Emamectin Benzoate
Product Name: EMAMECTIN BENZOATE 4.0% TREE INJECTION
EPA Registration Number: 100-1309
Application Date: 7/1/2019
Decision Number: 552696

Dear Mr. Hampton:

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 stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

If you have any questions about this letter, please contact DeMariah Koger by phone at (202)-566-2288, or via email at koger.demariah@epa.gov.

Sincerely,

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

Enclosure

[Master Label]

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.

EMAMECTIN BENZOATE	GROUP 6	INSECTICIDE

EMAMECTIN BENZOATE 4.0% TREE INJECTION

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

Active Ingredient:	
Emamectin Benzoate[1]	4.0%
Other Ingredients	96.0%
Total:	100.0%

[1]CAS No.155569-91-8

Contains 0.36 lb 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.)

See additional precautionary statements and directions for use on label [in booklet].

EPA Reg. No. 100-1309
EPA Est. No. [placeholder]

[Net Contents placeholder]
Net Contents
[Refillable/Non-refillable Container]

ACCEPTED
Aug 10, 2022
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 100-1309

FIRST AID	
If in eyes	• 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.
If swallowed	• 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

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.

HOT LINE NUMBER

For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident),
Call
1-800-888-8372

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING/AVISO

Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear. Harmful if swallowed. 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)

- Long-sleeved shirt and long pants
- Chemical–resistant gloves made of barrier laminate; butyl rubber ≥14 mils; nitrile rubber ≥14 mils; neoprene rubber ≥14 mils; polyvinyl chloride (PVC) ≥14 mils; or Viton≥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 the 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.

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

Emamectin Benzoate 4.0% Tree Injection is for control of mature and immature arthropod 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 4.0% Tree Injection 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 4.0% Tree Injection is designed for use with tree injection 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"). 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", and dividing the 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" 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 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. 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 opening.

WHEN TO TREAT

Emamectin Benzoate 4.0% Tree Injection 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 4.0% Tree Injection 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 arthropod damage (larval galleries, defoliation, leaf mining, etc.) an effective and uniform application of Emamectin Benzoate 4.0% Tree Injection 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 Emamectin Benzoate 4.0% Tree Injection 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 4.0% Tree Injection 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 4.0% Tree Injection. 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 bark beetles 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. Best results are achieved if applications are made prior to any vascular disruption to the tree. However, control may be achieved if larvae come into contact or feed on Emamectin Benzoate 4.0% Tree Injection-treated tissues

EMAMECTIN BENZOATE	GROUP	6	INSECTICIDE

RESISTANCE MANAGEMENT

For resistance management, Emamectin Benzoate 4% Tree Injection contains a Group 6 insecticide/acaricide. Any insect/mite population may contain individuals naturally resistant to Emamectin Benzoate 4% Tree Injection and other Group 6 insecticides. The resistant individuals may dominate the insect/mite population if this group of insecticides are used repeatedly in the same treated areas. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance, take the following steps:

- Rotate the use of Emamectin Benzoate 4% Tree Injection or other Group 6 insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
    - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
    - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
    - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).

  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.

  - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.

- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, record keeping, and which considers cultural, biological, and other chemical control practices.

- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist.

- Contact your local extension specialist for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.

- For further information or to report suspected resistance, contact Syngenta at 1-866-SYNGENT(A) (866-796-4368).

If resistance is suspected, do not reapply Emamectin Benzoate 4% Tree Injection or other Group 6 insecticides.

SYNGENTA encourages responsible use of Emamectin Benzoate 4% Tree Injection to ensure effective long-term control of the insects on the label. For additional information about implementing these or other resistance management practices, consult a local or state Extension specialist, or Syngenta representative.

[Optional Use Directions 1]

USE

Use as formulated or dilute with equivalent 1 to 3 volumes of water to apply.

Use Rate Table

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	255
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** for additional information in choosing the amount of product to apply.

Applications in Trees

Tree Tissue	Target Pest	Application Rate[1]	Comments
Seed and Cone	Pine Coneworm (*Dioryctria* spp), Cone Beetle (*Conopthora* spp.), Pine Cone Seed Bug (suppression of *Leptoglossus* and *Tetyra* 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	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.
	Bagworm Conifer Mites Fall Webworm Gypsy Moth Mimosa Webworm Oak Worm Tussock Moth Leafminers (including Lepidoptera, Coleoptera, Hymenoptera) Honeylocust Plant Bug Pine Needle Scale Red Palm Mite Sawfly (including Elm, Pine)	Low to High	
Shoot, Stem, Trunk and Branch	Clearwing Borers (including Ash, and Sequoia Pine Pitch Tube Moth)	Low to Medium	For 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.
	Flat-headed Borers (including adult and larvae of Emerald Ash Borer)	Low to High	

	Roundheaded Borers (excluding Asian longhorn Borer) **Scolytids (bark beetles)** Ips Engraver Beetles Mountain Pine Beetle Southern Pine Beetle Spruce Beetle Western Pine Beetle Pinewood Nematode	Medium to High	

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

[Optional Use Directions 2]

USE

Use as formulated or dilute with equivalent 1 to 3 volumes of water to apply.

Use Rate Table

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

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	Roundheaded Borers (excluding Asian longhorn Borer) **Scolytids (bark beetles)** Ips Engraver Beetles Mountain Pine Beetle Southern Pine Beetle Spruce Beetle Western Pine Beetle Pinewood Nematode	Medium to High	

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

Compatibility

Do not mix Emamectin Benzoate 4.0% Tree Injection before injection with other products such as insecticides, fungicides, plant growth regulators, surfactants, adjuvants, and fertilizers.

RESTRICTIONS

Do not apply to trees that may yield food consumed by humans or used in animal feed.

Emamectin Benzoate 4.0% Tree Injection is not to be reformulated or repackaged, including custom 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. Offer for recycling if available. 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 and 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.

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 Syngenta Crop Protection, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold Syngenta and Seller harmless for any claims relating to such factors.

Syngenta 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 this product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or Syngenta, and, (2) Buyer and User assume the risk of any such use. To the extent permitted by applicable law, SYNGENTA 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 Syngenta 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 SYNGENTA 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 SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA 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 SYNGENTA.

For non-emergency (e.g., current product information), call
Syngenta Crop Protection at 1-800-334-9481

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

Emamectin Benzonare 4.0% Tree Injection – 1309 MAS 0314 AMEND C JUNE 2019 – CL BP 7/12/2022
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