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## 1. IDENTIFICATION

**Product Name:** BOXER Insecticide-Miticide

**EPA Reg. No.:** 69117-12

**Recommended Use:** Systemic Insecticide

**Responsible Party:** ArborSystems, P.O. Box 34645, Omaha, NE 68134; 800-698-4641

## 2. HAZARD(S) IDENTIFICATION

**Classification of the substance or mixture-**

**Classification:**

Classification of BOXER Insecticide-Miticide

<u>Hazard Class</u>	<u>Category</u>	<u>Hazard Statement</u>
Acute Toxicity – Oral	4	H302
Eye Irritant	2	H319
Aquatic Toxicity-Chronic	2	H411

Full text of H-phrases: see table in “Label elements” below

**Adverse physicochemical, human health and environmental effects:** No additional information available

**Label elements-**

**GHS Labeling Elements:**

Hazard pictograms (CLP):



GHS07



GHS09

**Signal word:** WARNING

**Hazard statements:** H302 – Harmful if swallowed

**GHS Labeling Elements-**

H319 – Causes serious eye irritation

H411 – Toxic to aquatic life with long lasting effects

**Precautionary statements (prevention):**

P264 – Wash thoroughly after handling

P270 – Do not eat, drink or smoke when using this product

P280 – Wear eye protection/face protection

P273 – Avoid release to the environment

**Precautionary statements (response):**

P301+P312 – IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 – Rinse mouth

P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 – If eye irritation persists: Get medical advice or attention.

P391 – Collect spillage

**Precautionary statements (disposal):** P501 – Dispose of contents/container in accordance with federal, state and local regulations.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

<b>Component Name</b>	<b>CAS Number</b>	<b>Percent</b>
Emamectin Benzoate	155569-91-8	4.00%
Other Ingredients	NA	96.00%

Contains 0.36 lb. Emamectin per gallon (43 g/L)

## 4. FIRST-AID MEASURES

### Description of first aid measures-

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**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 poison control center or doctor for treatment advice if irritation develops or persists.

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything to an unconscious person

**IF INHALED:** Move to fresh air. If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

**First-aid measures – general:** 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.

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media-

**Suitable extinguishing media:** Use dry chemical, foam or CO2 extinguishing media

**Unsuitable extinguishing media:** High volume water jet. (Water contamination risk from runoff)

### Special hazards arising from the substance or mixture-

**Fire hazard:** Toxic and irritating compounds may be released upon exposure to fire or intense heat

**Explosion hazard:** Product is not explosive.

**Reactivity:** The product is stable at normal handling- and storage conditions.

### Advice for firefighters-

**Firefighting instructions:** Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent runoff from entering drains, sewers or waterways. To fight large fires, wear full protective clothing and NIOSH approved self-contained breathing apparatus with full-face piece operated in the positive pressure/demand mode. Full firefighting turnout gear (bunker gear): Any air respirator supplied with full face piece and operated in a pressure-demand or other positive pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full face piece.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures-

**General measures:** Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, etc.)

Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

### For non-emergency personnel-

**Protective equipment:** Wear appropriate personal protective equipment (PPE): Eye and face protection, coveralls, gloves, boots.

**Emergency procedures:** Avoid contact with spilled material

### For emergency responders-

**Protective equipment:** Wear appropriate personal protective equipment (PPE): Eye and face protection, coveralls, gloves, boots.

### Environmental precautions-

Prevent material from entering sewers, waterways, or low areas. Do not allow material to contaminate water systems.

### Methods and material for containment and cleaning up-

**Methods for cleaning up:** Ventilate air. Cleanup personnel require protective clothing and respiratory protection.

## 7. HANDLING AND STORAGE

### Precautions for safe handling-

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing.

### Conditions for safe storage, including any incompatibilities-

**Storage conditions:** Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Keep from freezing. Do not store food, beverages or tobacco products in the storage area.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment-

**Eye/Face Protection:** To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

**Skin Protection:** To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical resistant gloves (Category C such as barrier laminate; butyl rubber  $\geq$  14 mils; nitrile rubber  $\geq$  14 mils; or neoprene rubber  $\geq$  14 mils). An emergency shower or water supply should be readily accessible to the work area.

**Respiratory Protection:** Inhalation potential is low due to the method of application. If vapors or mists are present, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

**General Hygiene Considerations:** Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

### Exposure controls-

Exposure limits have not been established for the active ingredients in this product. Other ingredient exposure limits are listed below, where applicable:

Tetrahydrofurfuryl alcohol (CAS No. 97-99-4)

AIAH – Workplace Environmental Exposure Levels (WEELs – TWA) – 0.5 ppm

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties -

**Appearance:** Blue liquid

**Odor:** Mild characteristic

**pH (1%):** 5.02

**Evaporation rate (butyl acetate=1):** No data available

**Melting point:** No data available

**Freezing point:** No data available

**Initial boiling point:** No data available

**Flash point:** No flash to boiling ( $>101$  °C ( $>214$  °F))

**Auto-ignition temperature:** Not applicable

**Decomposition temperature:** No data available

**Flammability (solid, gas):** Not applicable

**Vapor density at 20 °C:** No data available

**Relative density:** No data available

**Density/bulk density:** 1.064 g/mL at 20 °C

**Solubility:** Miscible with water

**Viscosity, kinematic:** 37.3 mPa.s at 20 °C

**Viscosity, dynamic:** No data available

**Explosive limits:** Not applicable

**Upper/lower flammability:** Not flammable

**Partition coefficient: n-octanol/water:** No data available

## 10. STABILITY AND REACTIVITY

**Reactivity:** The product is stable at normal handling and storage conditions.

**Chemical stability:** Stable under normal conditions.

**Possibility of hazardous reactions:** Hazardous polymerization will not occur.

**Conditions to avoid:** Protect from heat.

**Incompatible materials:** Strong oxidizers

**Hazardous decomposition products:** May produce toxic or irritating gases under extreme heat or fire conditions.

## 11. TOXICOLOGICAL INFORMATION

**Information on toxicological effects-**Acute toxicity data for BOXER Insecticide-Miticide are provided below:

**Oral:** LD50 rat 1098 mg/kg

**Dermal:** LD50 rabbit  $>2000$  mg/kg

**Inhalation:** LC50 rat (4 h)  $>4.65$  mg/L (equivalent to 18.6 mg/L – 1 hour)

**Irritation:** Skin – Not a skin irritant. Eye – Mild irritant

**Corrosivity:** Not corrosive to eyes or skin

**Sensitization:** Not a skin sensitizer

Chronic/sub-chronic toxicity data for BOXER Insecticide-Miticide is not available. Data for active ingredient is provided below:

#### **Emamectin Benzoate-**

**Carcinogenicity:** Emamectin Benzoate is not listed as a carcinogen by IARC, NTP, OSHA or ACGIH.

**Reproductive & Developmental toxicity:** Reproductive toxin in animal studies only at doses acutely toxic to the maternal animal.

**Neurotoxicity:** Emamectin Benzoate affects the central nervous system in animals. Tremors and nerve lesions observed at lowest dose tested in rabbits.

**Mutagenicity:** Emamectin Benzoate is not genotoxic or mutagenic.

**Other:** Bladder changes reported in rats. Ingestion results in central nervous system effects such as muscle tremors, decreased activity, ataxia, and dilated pupils.

## 12. ECOLOGICAL INFORMATION (NON-MANDATORY)

### **Toxicity-**

**Ecotoxicological Summary:** BOXER Insecticide-Miticide is highly toxic to aquatic organisms and bees. 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 surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

**Ecotoxicity data:** Ecotoxicity data are not available for BOXER Insecticide-Miticide. Active ingredient data are given below:

#### **Emamectin Benzoate**

Fish (Rainbow Trout 96 hr.) LC50: 0.174 mg/L

Daphnia (48 hr.) EC50: 0.001 mg/L

Green algae (5-day) EC50: >0.0039 mg/L

Acute toxicity to Honey bee LD50 0.0036 µg/bee (Highly toxic to bees)

Acute toxicity mallard ducks, 14-day 46 mg/kg

**Persistence and degradability:** This product is not readily biodegradable.

**Bioaccumulative potential:** Aquatic hydrolysis, volatilization, adsorption to sediments, and bioconcentration are not expected to be significant.

**Mobility in soil:** No additional information available.

**Results of PBT and vPvB assessment:** No additional information available.

## 13. DISPOSAL CONSIDERATIONS (NON-MANDATORY)

### **Waste treatment methods-**

**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.

## 14. TRANSPORT INFORMATION (NON-MANDATORY)

**Not Regulated by US DOT or Canadian TDG for ground shipment.**

**Ground transport:** Not Regulated by US DOT. Not Regulated by Canadian TDG.

**Transport by sea (IMDG):** UN 3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Emamectin Benzoate); 9; III; Marine Pollutant

**Air transport (IATA):** UN 3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Emamectin Benzoate); 9; III

**Additional Air, Sea and International Transportation Information:**

**UN-No.:** 3082

**Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Emamectin Benzoate)

**Transport document description:** UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Emamectin Benzoate), 9, III

**Class (UN):** 9

**Hazard labels (UN):** 9



**Packing group (UN):** III

**Marine Pollutant (Y/N):** Y

## Dangerous for the environment:



## 15. REGULATORY INFORMATION (NON-MANDATORY)

**FIFRA Information:** This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

### 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 on clothing. Thoroughly wash with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse.

#### FIRST AID

**If Swallowed:** Immediately call a poison control center or doctor for treatment advice. Have person sip a 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 or Clothing:** Take off contaminated clothing. Immediately rinse skin with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. **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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

#### 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) repeatedly administer 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.

#### Hot Line 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.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear: Long-sleeved shirt and long pants; Chemical-resistant gloves (Category C) such as barrier laminate, butyl rubber  $\geq$  14 mils, nitrile rubber  $\geq$  14 mils or neoprene rubber  $\geq$  14 mils; Shoes and socks; and 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.

#### PHYSICAL OR CHEMICAL HAZARDS

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

**SARA 313 Regulated Chemical(s):** Not applicable

#### Title III hazard classification:

Acute Health Hazard: Yes

Chronic Health Hazard: No

Fire: No

Reactivity/Physical hazard: No

Pressure: No

**CERCLA/DOT Reportable Quantities (RQ):** Not applicable.

**Canadian Regulatory Information:** This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR. WHMIS Classification: D2B – Toxic

## 16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data.

Follow all local/regional/national/international regulations.

Please consult supplier if further information is needed.

All tests were conducted following OECD guidelines for Good Laboratory Practices (GLP).

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

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