



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Ms. Christie Hitchcock  
Registration Specialist  
Makhteshim Agan of North America, Inc.  
4515 Falls of Neuse Rd., Suite 300  
Raleigh, NC 27609

JUL 16 2008

Subject: Notification(s) for Label Revisions under PRN 98-10 and PRN 2007-4

Dear Ms. Hitchcock:

The Agency is in receipt of your Applications for Pesticide Notification under Pesticide Registration Notices (PRN) 98-10 and 2007-4 dated, June 2, 2008 and June 20, 2008 for:

**EPA Registration 66222-63**

**Thionex 3EC Insecticide**

The Registration Division (RD) has conducted a review of the request(s) for applicability under PRN 98-10 and PRN 2007-4 and finds that the label changes requested fall within the scope of PRN-98-10 and PRN-2007-4. The label has been date-stamped "Notification" and will be placed in our records.

Please be reminded that 40 CFR Part 156.140(a)(4) requires that a batch code, lot number, or other code identifying the batch of the pesticide distributed and sold be placed on nonrefillable containers. The code may appear either on the label (and can be added by non-notification/PR Notice 98-10) or durably marked on the container itself.

If you have any questions, please contact me directly at 703-305-6249 or Joyce Edwards of my staff at 703-308-5479.

Sincerely,

A handwritten signature in black ink, appearing to read "Linda Arrington".

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs

Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0080. Approval expires 2-28-95



United States  
Environmental Protection Agency  
Washington, DC 20460

Registration  
 Amendment  
 Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 66222-63	2. EPA Product Manager Linda Arrington	3. Proposed Classification <input type="checkbox"/> None <input checked="" type="checkbox"/> Restricted
4. Company/Product (Name) Thionex 3EC Insecticide	PM# Registration Support Branch	
5. Name and Address of Applicant (Include ZIP Code) Makhteshim Agan of North America, Inc. 4515 Falls of Neuse Rd., Suite 300 Raleigh, NC 27609 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(ii), my product is similar or identical in composition and labeling to: <b>NOTIFICATION</b> EPA Reg. No. _____ JUL 16 2008 Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification per PRN 98-10 & 2007-4: This notification is consistent with the provisions of PR Notice 98-10 & 2007-4 and EPA regulations at 40 CFR 152.46 and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec 1001 to willfully make false statements to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 & 2007-4 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 5 gal or less; 5 gal or more		5. Location of Label Directions <input checked="" type="checkbox"/> on label	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input checked="" type="checkbox"/> Other Self-adhesive	

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Christie Hitchcock	Title Registration Specialist	Telephone No. (Include Area Code) 919-256-9342
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature <i>Christie Hitchcock</i>	3. Title Registration Specialist	
4. Typed Name Christie Hitchcock	5. Date 06-20-08	



Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0080. Approval expires 2-28-95



United States  
Environmental Protection Agency  
Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

### Application for Pesticide - Section I

1. Company/Product Number 66222-63	2. EPA Product Manager Linda Arrington	3. Proposed Classification <input type="checkbox"/> None <input checked="" type="checkbox"/> Restricted
4. Company/Product (Name) Thionex 3EC Insecticide	PM# <u>23</u> Registration Support Branch	
5. Name and Address of Applicant (Include ZIP Code) Makhteshim Agan of North America, Inc. 4515 Falls of Neuse Rd., Suite 300 Raleigh, NC 27609 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

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Notification per PRN 98-10 & 2007-4: This notification is consistent with the provisions of PR Notice 98-10 & 2007-4 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make false statements to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 & 2007-4 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

### Section - III

1. Material This Product Will Be Packaged In:					
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> on label	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled <input type="checkbox"/> Other _____					

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Christie Hitchcock	Title Registration Specialist	Telephone No. (Include Area Code) 919-256-9342

#### Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

6. Date Application Received  
(Stamped)

2. Signature 	3. Title Registration Specialist
4. Typed Name Christie Hitchcock	5. Date 06-20-08

5/23

**RESTRICTED USE PESTICIDE**

Due to acute toxicity to humans, aquatic organisms, and avian species. 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 applicators certification.

**THIONEX<sup>®</sup> 3EC**  
**INSECTICIDE**

For Agricultural or Commercial Use Only

Not for use or storage in or around residential sites-see DIRECTIONS FOR USE/GENERAL INSTRUCTIONS for prohibited areas

<b>ACTIVE INGREDIENT</b>	<b>% BY WT.</b>
Endosulfan: (Hexachlorohexahydromethano-2,4,3-benzodioxathiepin-3-oxide)	33.7%
<b>INERT INGREDIENTS:*</b>	<b>66.3%</b>
	<b>TOTAL 100.0%</b>

\*Contains Xylene Range Aromatic Solvent.  
Contains 3 pounds of endosulfan per gallon.

**KEEP OUT OF REACH OF CHILDREN**

 **DANGER-POISON**   
**PELIGRO**

EPA Reg. No. 66222-63

**Manufactured for:**

Makhteshim Agan of North America, Inc.  
4515 Falls of Neuse Rd., Suite 300  
Raleigh, NC 27609

**NET CONTENTS: 2.5 GALLONS**

**SEE OTHER PANELS FOR ADDITIONAL PRECAUTIONARY INFORMATION.**

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**

<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give <b>any</b> liquid to the person.</li> <li>• Do not give anything by mouth to an unconscious or convulsing person.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>

**Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact PROSAR at 1-877-250-9291 for emergency medical treatment information.**

**NOTE TO PHYSICIAN:** Endosulfan is a central nervous system stimulant absorbable by mouth, inhalation, or through contact with skin. It may cause convulsions. There is no specific antidote. Diazepam I.V. is the drug of choice. Barbituric acid derivatives such as Phenobarbital may be used additionally. A neuromuscular blocking agent may be used if convulsions persist. This type of drug may be used *only* if complete control of respiration can be maintained. Epinephrine derivatives are absolutely contraindicated. This formula contains petroleum hydrocarbons (xylene range aromatic solvent). Care should be taken to prevent aspiration because of the possibility of chemical pneumonia or pulmonary edema due to the organic solvent in the formulation. Probable mucosal damage may contraindicate the use of gastric lavage.

**NOTIFICATION**

**JUL 16 2008**

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

Fatal if swallowed or absorbed through skin. Corrosive. Causes irreversible eye damage. Causes skin burns. May be fatal if inhaled. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. Do not contaminate food or feed. Keep out of reach of domestic animals. Food utensils such as spoons and measuring cups must not be used for food purposes after use in measuring pesticides.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some of the materials that are chemical-resistant to this product are barrier laminate or Viton. If you want more options, follow the instructions for category **G** on an EPA chemical resistance category selection chart.

**All handlers except those using engineering controls must wear:**

- A respirator with an organic-vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval prefix TC-14G), or a NIOSH approved respirator with an (OV) cartridge or canister with any R, P, or HE prefilter.

**IN ADDITION:**

**All mixers and loaders who are not using engineering controls (see engineering control requirements below), handlers supporting or using high pressure handwand equipment, and flaggers must wear:**

- Coveralls over long sleeved shirt and long pants
- Chemical-resistant footwear plus socks
- Chemical-resistant gloves (except for flagging)
- Goggles or face shield
- Chemical-resistant headgear when exposed overhead
- Chemical-resistant apron when mixing and loading

**All other handlers must wear:**

- Long-sleeved shirt and long pants
- Socks and shoes
- Goggles or face shield
- Chemical-resistant gloves except for applicators using enclosed cabs or cockpits
- Chemical-resistant headgear when exposed overhead
- Chemical-resistant apron when applying dips, cleaning up spills, or cleaning/repairing equipment
- A respirator of the type specified above for all handlers except for those using engineering controls.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

**ENGINEERING CONTROL STATEMENT**

**Mixers and loaders supporting aerial applications at the rate of more than 1.5 lbs/a.i. per acre or supporting applications to cotton must use a closed system that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4)] for dermal and inhalation protection, and must:**

- wear long-sleeved shirt, long pants, shoes, socks, chemical resistant gloves, and chemical resistant apron, and
- wear protective eyewear (face shield or goggles), if the system operates under pressure, and
- be provided and must have immediately available for use in an emergency, such as a broken package, spill, or equipment breakdown: coveralls, chemical resistant gloves, chemical resistant footwear, and the type of respirator specified in the PPE section.

**Applicators using airblast equipment on all crops except ornamental trees and shrubs must use an enclosed cab that meets the definition of the Worker Protection Standard for Agricultural Pesticides [40 CFR 170.240(d)(5)] for dermal protection. In addition such applicators must:**

- wear the personal protective equipment required in the PPE section of this labeling,
- either wear the type of respirator specified in the PPE section of this labeling or use an enclosed cab that is declared in writing by the manufacturer or by a government agency to provide at least as much respiratory protection as the type of respirator specified in the PPE section of this labeling.
- be provided and must have immediately available for use in an emergency when they must exit the cab in the treated area: coveralls, chemical-resistant gloves, chemical resistant footwear, chemical-resistant headgear, if overhead exposure, and if using an enclosed cab that provides respiratory protection, a respirator of the type specified in the PPE section of this labeling,
- take off any PPE that was worn in the treated area before reentering the cab, and
- store all such PPE in a chemical-resistant container, such as a plastic bag, to prevent contamination of the inside of the cab.

Pilots must use an enclosed cockpit in a manner that meets the requirements listed in the Worker Protection Standards (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

When handlers use closed systems and enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

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

**ENVIRONMENTAL HAZARDS**

This product is extremely toxic to fish and aquatic invertebrates and toxic to birds and mammals. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. See spray drift management instructions under "Directions for Use." Do not contaminate water when disposing of equipment wash waters or rinsate. This product must not be used in areas where impact on threatened endangered species is likely. Contact your State Fish and Game Agency before applying this product. Apply this product only as specified on this label.

This pesticide is toxic to bees exposed to direct application. Applications should be timed to coincide with periods of minimum bee activity, usually between late evening and early morning.

**PHYSICAL AND CHEMICAL HAZARDS**

COMBUSTIBLE. Do not use, pour, spill, or store near heat or open flame.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI). PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical resistant gloves made of any waterproof material
- Protective eyewear
- Shoes plus socks

Notify workers of the application by warning them orally and by posting warning signs at the entrances to treated areas.

**This product may be used in California by following the specific crop directions and the SUPPLEMENTAL LABEL found at the end of this label.**

**GENERAL INSTRUCTIONS**

**Not for use or storage in or around residential sites, including homes, non-agricultural outbuildings, non-commercial greenhouses, pleasure boats, recreational vehicles, preschools, day care centers, and applications to humans and pets.**

Do not use in undiluted form.

When an adjuvant is to be used with this product, Makhteshim Agan of North America, Inc. suggests the use of a Chemical Producers and Distributors Association certified adjuvant.

Apply the listed amount per acre when insects first appear and repeat as required, unless otherwise noted, to maintain effective control. Use in sufficient water for thorough coverage of listed crops unless otherwise noted. Coverage of upper and lower leaf surfaces is essential for good control. For ground application, apply recommended amount of pesticide in a minimum of 10 gallons of water per acre on vegetable or row crops unless otherwise noted. Observe use limitations. If insect control is required beyond the following use patterns, supplement the control program with other suitable pesticides.

**Mixing Instructions**

When applying this material by aircraft, mix the recommended amount with sufficient water to provide a minimum of 1 gallon of finished spray per acre on vegetable and field crops unless otherwise noted, and a minimum of 20 gallons of finished spray per acre on fruit and nut trees and on vines. Where more than 2 quarts of this material are recommended, mix with sufficient water to provide a minimum of finished spray equal to twice the amount of Thionex Endosulfan 3EC Insecticide used.

Do not plant root crops other than carrots, potatoes, sweet potatoes, and sugar beets as follow-up crops.

**Spraying Instructions**

Do not use high pressure hand wand equipment except for bark treatment or tobacco drench. If using high pressure hand wand equipment or Right-of-Way sprayers, reduce the maximum rate of application to 0.005 lb. active ingredient (0.2 fl. oz. of this product) per gallon.

**Requirements for Reducing Spray Drift**

Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals. A 30 ft. vegetative buffer strip must be maintained between all areas treated with this product and rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds.

For ground boom applications, do not apply within 100 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds. Apply with nozzle height no more than 4 feet above the ground or crop canopy and when wind speed is 10 mph or less at the application site as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles.

For airblast applications, do not apply within 100 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries and commercial fish ponds. Direct spray above trees / vines and turn off outward pointing nozzles at row ends and outer rows. Apply only when wind speed is 3-10 mph at the application site as measured by an anemometer outside of the site on the upwind site.

For aerial applications, do not apply within 300 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds. The boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3 – 10 mph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or the crop canopy.

The applicator also must use all other measures necessary to control drift.

**CHEMIGATION STATEMENT****CHEMIGATION USE INSTRUCTIONS – POTATOES ONLY (Not Registered for Use in CA)**

Do not apply this product through any type of irrigation system to other crops. Do not apply this product to potatoes through any type of irrigation system unless the Chemigation Application Instructions are followed.

**APPLICATION THROUGH IRRIGATION SYSTEMS - CHEMIGATION**

For overhead chemigation, do not apply within 100 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds. Apply only when wind speed is 10 mph or less.

Apply this product only through sprinkler, including center pivot, lateral move, end tow side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Mix in clean supply tank the recommended amount of this product for acreage to be covered, and needed quantity of water.

This product should not be tank-mixed with other pesticides, surfactants or fertilizers unless prior use has shown the combination noninjurious under your conditions of use. Follow precautionary statements and directions for all tank-mix products.

On all crops, use sufficient gallonage of water to obtain thorough and uniform coverage, but not cause runoff or excessive leaching. This will vary depending on equipment, pest problem and stage of crop growth. Application of more or less than optimal quantity of water may result in decreased chemical performance, crop injury or illegal pesticide residues.

Meter this product into the irrigation water uniformly during the period of operation. Do not overlap application. Follow recommended label rates, application timing, and other directions and precautions for crop being treated. Continuous mild agitation of pesticide mixture may be needed to assure a uniform application, particularly if the supply tank requires a number of hours to empty.

Do not apply when wind speed favors drift beyond the area intended for treatment.



**CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS**

Note: Makhteshim-Agan of North America does not encourage connecting chemigation systems to public water supplies. The following information is provided for users who have diligently considered all other application and water supply options before electing to make such a connection.

Public water systems means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of a least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from a point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shutdown.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of material that are compatible with pesticides and capable of being fitted with a system interlock.

**SPRINKLER CHEMIGATION (FOLIAR SPRAY USES)**

The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

**PREHARVEST INTERVAL**

Observe days interval between last application and harvest indicated by number in ( ) following the crop.

CROP	INSECTS CONTROLLED	RATE OF APPLICATION	METHOD OF APPLICATION
APPLES (21) (Except California)	Aphids (including Apple Aphid, Rosy Apple Aphid, Woolly Apple Aphid), Apple Rust Mite, Green Fruitworm, Tarnished Plant Bug, Tentiform Leafminer, White Apple Leafhopper (first generation)	2/3 qt./100 gals. or a maximum of 3 1/3 qts. per acre	Applications made at pink and/or petal fall provide best control of Tarnished Plant Bug and Green Fruitworm. For best control of first generation White Apple Leafhopper, apply when nymphs first appear on leaves. If necessary, prior to petal fall, use 1 qt. per 100 gals. to control Apple Aphid and Rosy Apple Aphid. For control of Tentiform Leafminer, make first application as soon as moth flights begin. A second application should be made 10 days later.
			<ul style="list-style-type: none"> <li>Do not feed pomace from treated apples to livestock.</li> <li>Do not feed cull fruits to animals or allow livestock to graze in treated orchards.</li> <li>Do not make more than 2 applications during the fruiting period.</li> <li>Do not make more than 3 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>Exception for airblast application to apples: when application using enclosed-cab airblast equipment is not feasible in apple orchards, applicators are permitted to use open-cab airblast equipment PROVIDED they are wearing chemical resistant headgear AND maximum PPE clothing (i.e., baseline clothing plus organic vapor respirator, coveralls over long sleeved shirt and long pants, chemical resistant gloves, chemical resistant shoes plus socks; and goggles or face shield).</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>
APPLES (30) (California only)	Aphids (including Apple Aphid, Rosy Apple Aphid, Woolly Apple Aphid), Apple Rust Mite, White Apple Leafhopper (first generation)	2/3 qt. per 100 gals. or a maximum of 3 1/3 qts. per acre	For best control of first generation White Apple Leafhopper, apply when nymphs first appear on leaves. If necessary, prior to petal fall, use 1 qt. per 100 gals. to control Apple Aphid and Rosy Apple Aphid.

	<ul style="list-style-type: none"> <li>Do not feed pomace from treated apples to livestock.</li> <li>Do not feed cull fruits to animals or allow livestock to graze in treated orchards.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>Exception for airblast application to apples: when application using enclosed-cab airblast equipment is not feasible in apple orchards, applicators are permitted to use open-cab airblast equipment PROVIDED they are wearing chemical resistant headgear AND maximum PPE clothing (i.e., baseline clothing plus organic vapor respirator, coveralls over long sleeved shirt and long pants, chemical resistant gloves, chemical resistant shoes plus socks; and goggles or face shield).</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>
<b>APRICOTS, NECTARINES, PEACHES (21)</b> (Except California)	Peachtree Borer, Lesser Peachtree Borer 1 qt./ 100 gals. or 2 2/3 – 3 1/3 qts. per acre Pacific Northwest: Use 2/3-1 qt. per 100 gals.; Southeastern States: Use 2 to 3 1/3 qts. per 100 gals. Best control is obtained with a single application post-harvest after the leaves have dropped. Spray all bark areas from ground level to lower scaffold limbs.
	<ul style="list-style-type: none"> <li>Do not feed cull fruits to animals or allow livestock to graze in treated orchards.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For airblast applications the use of a closed cab is required.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>
<b>APRICOTS, NECTARINES, PEACHES (30)</b> (Except California)	Aphids (including Black Cherry Aphid, Black Peach Aphid, Green Peach Aphid, Rusty Plum Aphid), Catfacing Insects (Stink Bug type), Green Fruitworm, Peach Silver Mite, Peach Twig Borer 2/3 qt./ 100 gals. or a maximum of 3 1/3 qts. per acre Make applications when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not feed cull fruits to animals nor allow livestock to graze in treated orchards.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For airblast applications the use of a closed cab is required.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>
<b>APRICOTS, NECTARINES, PEACHES (30)</b> (California only)	Aphids (including Black Cherry Aphid, Black Peach Aphid, Green Peach Aphid, Rusty Plum Aphid), Catfacing Insects (Stink Bug type), Peach Silver Mite, Peach Twig Borer 2/3 qt./ 100 gals. or a maximum of 3 1/3 qts. per acre Make applications when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not feed cull fruits to animals or allow livestock to graze in treated orchards.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For airblast applications the use of a closed cab is required.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>
<b>BEANS, DRY (3)</b> (Except California)	Black Bean Aphid, Bean Leaf Skeletonizer, Cowpea Curculio, Cucumber Beetle, Flea Beetles, Green Stink Bug, Leafhopper, Mexican Bean Beetle 2/3 - 1 1/3 qts. per acre Make applications when insects appear or feeding is noticed. For control of Cowpea Curculio, make 3 applications at 5-day intervals starting when the pods are 1/2-inch long.
	Aphid, Armyworm, Western Bean Cutworm, Whitefly 1 1/3 qts. per acre <ul style="list-style-type: none"> <li>Do not feed treated threshings or allow livestock to graze in treated fields.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>
<b>BEANS, DRY (3)</b> (California only)	Black Bean Aphid, Bean Leaf Skeletonizer, Cucumber Beetle, Flea Beetles, Green Stink Bug, Leafhoppers, Mexican Bean Beetle 2/3 – 1 1/3 qts. per acre Make applications when insects appear or feeding is noticed.
	Aphids, Western Bean Cutworm, Whitefly 1 1/3 qts. per acre <ul style="list-style-type: none"> <li>Do not feed treated threshings or allow livestock to graze in treated fields.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>
<b>BLUEBERRIES</b>	Blueberry Bud Mite 2 qts. per acre in 300 gals. Apply immediately after harvest and repeat 6 to 8 weeks later.

(Except California)	<ul style="list-style-type: none"> <li>Do not apply after buds are well formed.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 1.5 lbs. active ingredient (i.e., 2 qts. of product) per acre per season.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 6 days.</li> </ul>		
<b>BROCCOLI (7), BRUSSELS SPROUTS (14), CABBAGE (7), CAULI- FLOWER (14)</b> (Except California)	Cabbage Aphid, Cabbage Looper, Cross-striped Cabbageworm, Diamondback Moth Larvae, Flea Beetle, Harlequin Bug, Imported Cabbageworm, Leafhoppers, Stink Bugs	1 – 1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Armyworm, Cutworm, Whitefly	1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 4 days.</li> </ul>		
<b>BROCCOLI (7), BRUSSELS SPROUTS (14), CABBAGE (7), CAULI- FLOWER (14)</b> (California only)	Cabbage Aphid, Cabbage Looper, Cross-striped Cabbageworm, Diamondback Moth Larvae, Flea Beetles, Harlequin Bug, Imported Cabbageworm, Stink Bugs	1 – 1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Armyworms, Cutworms, Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 4 days.</li> </ul>		
<b>CARROTS (7)</b> (Except California)	Green Peach Aphid, Leafhopper	2/3 – 1 1/3 qts. per acre	Make application when insects appear or feeding is noticed.
	Armyworm, Flea Beetle, Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>Do not use tops for food or feed.</li> <li>Do not make more than one application per season.</li> <li>Do not exceed a maximum of 1 lb. active ingredient (i.e., 1 1/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>CARROTS (7)</b> (California only)	Green Peach Aphid	2/3 – 1 1/3 qts. per acre	Make application when insects appear or feeding is noticed.
	Flea Beetles, Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>Do not use tops for food or feed.</li> <li>Do not make more than one application per season.</li> <li>Do not exceed a maximum of 1 lb. active ingredient (i.e., 1 1/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>CELERY (4)</b> (Except California)	Green Peach Aphid, Cabbage Looper, Leafhoppers	2/3 – 1 1/3 qts. per acre	Make application when insects appear or feeding is noticed.
	Armyworm, Flea Beetle, Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>Do not make more than one application per season.</li> <li>Do not exceed a maximum of 1 lb. active ingredient (i.e., 1 1/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>CELERY (4)</b> (California only)	Green Peach Aphid, Cabbage Looper	2/3-1 1/3 qts. per acre	Make application when insects appear or feeding is noticed.
	Flea Beetles, Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>Do not make more than one application per season.</li> <li>Do not exceed a maximum of 1 lb. active ingredient (i.e., 1 1/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>CELERY (7)</b> (Except California)	Green Peach Aphid	2/3 qt. per acre	Make applications when insects appear or feeding is noticed.
			<ul style="list-style-type: none"> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 1 lb. active ingredient (i.e., 1 1/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>
<b>CELERY (7)</b> (California only)	Green Peach Aphid	2/3 qts. per acre	Make applications when insects appear or feeding is noticed.
			<ul style="list-style-type: none"> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 1 lb. active ingredient (i.e., 1 1/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) of 2 days.</li> </ul>
<b>CHERRIES (21)</b> (Except California)	Peachtree Borer, Lesser Peachtree Borer	1 qt./100 gals. or 2 2/3 – 3 1/3 qts. per acre; Pacific Northwest: 2/3 -1 qt./100 gals.	Best control is obtained with a single application post-harvest after the leaves have dropped. Spray all bark areas from ground level to lower scaffold limbs.
	Black Cherry Aphid, Green Fruitworm, Plum Rust (Nursery) Mite	2/3 qt. per 100 gals. or 2 2/3 – 3 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Pacific Northwest only: Eye-Spotted Bud Moth Fruittree Leafroller		For bud moth control, apply at "popcorn" stage. For leafroller control, apply during pre-pink stage of growth.

	Michigan Only: Mineola Moth	1 1/3 qts. per 100 gals. not to exceed 3.33 qts. (2.5 lb a.i.) per acre	Apply in the delayed dormant period.
	<ul style="list-style-type: none"> <li>Do not feed cull fruits to animals or allow livestock to graze in treated orchards.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For airblast applications the use of a closed cab is required.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>CHERRIES</b> (21) (California only)	Black Cherry Aphid, Plum Rust (Nursery) Mite	2/3 qt. per 100 gals. or 2 2/3 - 3 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not feed cull fruits to animals or allow livestock to graze in treated orchards.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For airblast applications the use of a closed cab is required.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>CITRUS</b> (Non-bearing Trees and Nursery Stock) (Except California)	Citrus Aphid	2/3 qt. per 100 gals. or a maximum of 3 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not apply to bearing trees or trees that will bear fruit within twelve months.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For airblast applications the use of a closed cab is required.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>CITRUS</b> (Non-bearing Trees and Nursery Stock) (California only)	Citrus Aphid	2/3 qt. per 100 gals. or a maximum of 3 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not apply to bearing trees or trees that will bear fruit within twelve months.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For airblast applications the use of a closed cab is required.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>COLLARDS</b> (21) (Except California)	Aphid, Cabbage Looper, Diamondback Moth Larvae, Fall Armyworm, Flea Beetle, Harlequin Bug, Imported Cabbageworm, Leafhoppers	1 - 1 1/3 qts. per acre	Make application when insects appear or feeding is noticed.
	Whitefly	1 1/3 qts. per acre	
<ul style="list-style-type: none"> <li>Do not make more than one application per season.</li> <li>Do not exceed a maximum of 1 lb. active ingredient (i.e., 1 1/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>			
<b>COLLARDS</b> (21) (California only)	Aphids, Cabbage Looper, Diamondback Moth Larvae, Flea Beetles, Harlequin Bug, Imported Cabbageworm, Whitefly	1 qt. per acre	Make application when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not make more than one application per season.</li> <li>Do not exceed a maximum of 0.75 lb. active ingredient (i.e., 1 qt. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>COTTON</b> (For Use in AZ, NM, OK and TX only)	Aphids	Ground 1/2 - 1 qt. per acre Air 1 qt. per acre	Make applications when insects appear or feeding is noticed. For control of aphids, thorough coverage is important.
	Boll Weevil	Ground 2/3 - 2 qts. per acre Air 1 qt. per acre	
	Bollworm, Cabbage Looper, Cotton Leafperforator, Cotton Leafworm, Fleahopper, Lygus Bugs, Stink Bugs, Tobacco Budworm	Ground 1 1/3 - 2 qts. per acre Air 1 qt. per acre	
	Thrips	Ground 2 qts. per acre Air 1 qt. per acre	

	Whitefly	Ground 1 1/3 qts. per acre Air 1 qt. per acre	
	<ul style="list-style-type: none"> <li>• Applications may be made using ground or aerial application equipment. The higher rate should be used under heavy pest pressure.</li> <li>• Do not make more than 2 applications per season.</li> <li>• Do not apply after bolls open.</li> <li>• Do not graze meat or dairy animals in treated fields.</li> <li>• For aerial application, the use of a closed mixing/loading system is required.</li> <li>• Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>• Restricted-Entry Interval (REI) is 2 days.</li> <li>• Only mechanical harvesting is permitted. Hand thinning/pruning is prohibited.</li> </ul>		
<b>COTTON</b> (California only)	Aphids	Ground 1/2 - 1 qt. per acre Air 1 qt. per acre	Make applications when insects appear or feeding is noticed. For control of aphids, thorough coverage is important.
	Bollworm, Cabbage Looper, Cotton Leafperforator, Fleahoppers, Lygus Bugs, Stink Bugs	Ground 1 1/3 - 2 qts. per acre Air 1 qt. per acre	
	Thrips	Ground 2 qts. per acre Air 1 qt. per acre	
	Whitefly	Ground 1 1/2 qts. per acre Air 1 qt. per acre	
	<ul style="list-style-type: none"> <li>• Applications may be made using ground or aerial application equipment. The higher rate should be used under heavy pest pressure.</li> <li>• Do not make more than 2 applications per season.</li> <li>• Do not apply after bolls open.</li> <li>• Do not graze meat or dairy animals in treated fields.</li> <li>• For aerial application, the use of a closed mixing/loading system is required.</li> <li>• Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>• Restricted-Entry Interval (REI) is 2 days.</li> <li>• Only mechanical harvesting is permitted. Hand thinning/pruning is prohibited.</li> </ul>		
<b>CUCUMBERS</b> (2), <b>MELONS</b> (2), <b>PUMPKINS</b> (2), <b>SUMMER</b> and <b>WINTER</b> <b>SQUASH</b> (2) (Except California)	Aphids, Cucumber Beetle, Melonworm, Pickleworm, Rindworm (on watermelons), Squash Beetle, Squash Bug, Squash Vine Borer, Striped Flea Beetle	2/3 - 1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed. For squash vine borer control, apply weekly to flower buds, stems, and vines beginning when moths first appear.
	Cabbage Looper, Omnivorous Leafroller, Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>• Do not make more than 4 applications per season.</li> <li>• Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>• Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>CUCUMBERS</b> (2), <b>MELONS</b> (2), <b>PUMPKINS</b> (2), <b>SUMMER</b> and <b>WINTER</b> <b>SQUASH</b> (2) (California only)	Aphids, Cucumber Beetle, Melonworm, Pickleworm, Rindworm (on watermelons), Squash Beetle, Squash Bug, Squash Vine Borer, Striped Flea Beetle	2/3 - 1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed. For squash vine borer control, apply weekly to flower buds, stems and vines beginning when moths first appear.
	Cabbage Looper, Omnivorous Leafroller, Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>• Do not make more than 3 applications per season.</li> <li>• Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>• Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>EGGPLANT</b> (1) (Except California)	Blistar Beetle, Colorado Potato Beetle, Flea Beetle, Green Peach Aphid, Green Stink Bug, Whitefly	1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>• Do not make more than 2 applications per season.</li> <li>• Do not exceed a maximum of 1 lb. active ingredient (i.e., 1 1/3 qts. of product) per acre per season.</li> <li>• Restricted-Entry Interval (REI) is 2 days.</li> </ul>		

<b>EGGPLANT (1)</b> (California only)	Blister Beetle, Colorado Potato Beetle, Flea Beetles, Green Peach Aphid, Green Stink Bug, Whitefly	1 1/3 pts. per acre	Make application when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not make more than one application per season.</li> <li>Do not exceed a maximum of 0.5 lb. active ingredient (i.e., 1 1/3 pts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>KALE (21)</b> (Except California)	Cabbage Flea Beetle, Harlequin Bug, Imported Cabbageworm	1 qt. per acre	Make application when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not make more than one application per season.</li> <li>Do not exceed a maximum of 0.75 lb. active ingredient (i.e., 1 qt. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>KALE (21)</b> (California only)	Cabbage Flea Beetle, Harlequin Bug, Imported Cabbageworm	1 qt. per acre	Make application when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not make more than one application per season.</li> <li>Do not exceed a maximum of 0.75 lb. active ingredient (i.e., 1 qt. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>LETTUCE (14)</b> (Except California)	Cabbage Looper, Diamondback Moth Larvae, Green Peach Aphid, Imported Cabbageworm, Leafhoppers	1 – 1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Armyworms, Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>On Head Lettuce: Do not exceed 2 applications after thinning. Remove wrapper leaves at harvest.</li> <li>On Leaf Lettuce and Head Lettuce: Do not make more than 2 applications per season.</li> <li>Do not feed crop refuse to livestock.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>LETTUCE (14)</b> (California only)	Cabbage Looper, Diamondback Moth Larvae, Green Peach Aphid, Imported Cabbageworm, Leafhoppers	1 – 1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>On Head Lettuce: Do not exceed 2 applications after thinning. Remove wrapper leaves at harvest.</li> <li>On Leaf Lettuce and Head Lettuce: Do not make more than 2 applications per season.</li> <li>Do not feed crop refuse to livestock.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>MUSTARD GREENS (21)</b> (Except California)	Aphids, Cabbage Looper, Diamondback Moth Larvae, Fall Armyworm, Flea Beetle, Harlequin Bug, Imported Cabbageworm, Leafhoppers	1 – 1 1/3 qts. per acre	Make application when insects appear or feeding is noticed.
	Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>Do not make more than one application per season.</li> <li>Do not exceed a maximum of 1 lb. active ingredient (i.e., 1 1/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>MUSTARD GREENS (21)</b> (California only)	Aphids, Cabbage Looper, Diamondback Moth Larvae, Fall Armyworm, Flea Beetles, Harlequin Bug, Imported Cabbageworm, Whitefly	1 qt. per acre	Make application when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not make more than one application per season.</li> <li>Do not exceed a maximum of 0.75 lb. active ingredient (i.e., 1 qt. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>PEARS (7)</b> (Except California)	Green Fruitworm, Tarnished Plantbug	2/3 qt. per 100 gals. or 2 2/3 – 3 1/3 qts. per acre	Make applications at white bud or petal fall when insects appear or feeding is noticed.
	Pear Psylla	3 1/3 qts. per acre	Apply in a minimum of 10 gals. of water for aerial application or in 300 gals. of water for dilute application. Apply when adults are first observed or nymphs are small and repeat to maintain control.
	Pear Rust Mite, Conspense Stink Bug (foliar treatment)	2/3 qt. per 100 gals. or 2 2/3 – 3 1/3 qts. per acre	Make applications when insects appear or feeding is noticed. Stink bugs must be wet by spray to obtain control.
	Conspense Stink Bug (soil treatment)	2/3 qt. per 100 gals.; 200 – 400 gals. per acre	Apply to orchard floor and around trees prior to bloom.

	Pear Leaf Blister Mite	1/3 – 2/3 qt. per 100 gals. not to exceed 3.3 qts. (2.5 lbs. a.i.) per acre	Apply to trees as a post-harvest or dormant treatment.
	<ul style="list-style-type: none"> <li>Do not feed cull fruits to animals or allow livestock to graze in treated orchards.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For airblast applications the use of a closed cab is required. Exception for airblast application to pears (OR, WA, and ID only): when application using enclosed-cab airblast equipment is not feasible in pear orchards, applicators are permitted to use open-cab airblast equipment PROVIDED they are wearing chemical resistant headgear AND maximum PPE clothing (i.e., baseline clothing plus organic vapor respirator, coveralls over long sleeved shirt and long pants, chemical resistant gloves, chemical resistant shoes plus socks; and goggles or face shield).</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> <li><b>Note:</b> Aerial application may not result in satisfactory control and should only be employed if impossible to apply by ground.</li> </ul>		
PEARS (7) (California only)	Pear Psylla	3 1/3 qts. per acre	Apply in a minimum of 10 gals. of water for aerial application or in 300 gals. of water for dilute application. Apply when adults are first observed or nymphs are small and repeat to maintain control.
	Pear Rust Mite, Conspense Stink Bug (foliar treatment)	2/3 qt. per 100 gals. or 2 2/3 – 3 1/3 qts. per acre	Make applications when insects appear or feeding is noticed. Stink bugs must be wet by spray to obtain control.
	Conspense Stink Bug (soil treatment)	2/3 qt. per 100 gals.; 200 – 400 gals. per acre	Apply to orchard floor and around trees prior to bloom.
	Pear Leaf Blister Mite	1/3 – 2/3 qt. per 100 gals. not to exceed 3.3 qts. (2.5 lbs. a.i.) per acre	Apply to trees as a post-harvest or dormant treatment.
	<ul style="list-style-type: none"> <li>Do not feed cull fruits to animals or allow livestock to graze in treated orchards.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For airblast applications the use of a closed cab is required.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> <li><b>Note:</b> Aerial application may not result in satisfactory control and should only be employed if impossible to apply by ground.</li> </ul>		
PEPPERS (4) (Except California)	Armyworms, Flea Beetles, Green Peach Aphid, Hornworm, Leafhoppers, Pepper Maggot	2/3 – 1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
PEPPERS (4) (California only)	Flea Beetles, Green Peach Aphid, Hornworms, Pepper Maggot	2/3 – 1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
PINEAPPLE (For Fresh Market Only) (7) (Except California)	Pineapple Fruit Mite	2 – 2 2/3 qts. per acre	Make applications when insects appear or feeding is noticed. Apply at intervals of 7 to 10 days if necessary, particularly during the 40-day period of blooming.
	<ul style="list-style-type: none"> <li>Do not feed forage or pineapple by-products to livestock.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
PINEAPPLE (For Fresh Market Only) (7) (California only)	Pineapple Fruit Mite	2 – 2 2/3 qts. per acre	Make applications when insects appear or feeding is noticed. Apply at intervals of 7 to 10 days if necessary, particularly during the 40-day period of blooming.
	<ul style="list-style-type: none"> <li>Do not feed treated forage or pineapple by-products to livestock.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
PLUMS (7), PRUNES (7)	Fruittree Leafroller (Pacific Northwest Only)	2/3 qt. per 100 gals. or 2 2/3 – 3 1/3 qts. per acre	Apply during pre-pink stage of growth when insects appear or feeding is noticed.

(Except California)	Aphids (including Hop Aphid, Leafcurl Plum Aphid, Thistle Aphid), Plum Rust (Nursery) Mite		For control of aphids, apply when eggs hatch during pre-bloom or petal fall. Summer applications should be made before leaves curl.
	Peach Twig Borer	2/3 qt. per 100 gals. or 2 2/3 - 3 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Lesser Peachtree Borer, Peachtree Borer	1 qt. per 100 gals. or 2 2/3 - 3 1/3 qts. per acre	<i>Pacific Northwest:</i> 2/3 - 1 qt. per 100 gals. or 2 2/3 - 3 1/3 qts. per acre. Best control is obtained with a single application post-harvest after the leaves have dropped. Spray all bark areas from ground level to lower scaffold limbs.
	<ul style="list-style-type: none"> <li>Do not allow livestock to graze on treated orchard crops or grasses in treated areas.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For airblast applications the use of a closed cab is required.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
PLUMS (7), PRUNES (7) (California only)	Aphids (including Hop Aphid, Leafcurl Plum Aphid, Thistle Aphid), Plum Rust (Nursery) Mite	2/3 qt. per 100 gals. or 2 2/3 - 3 1/3 qts. per acre	For control of aphids, apply when eggs hatch during pre-bloom or petal fall. Summer applications should be made before leaves curl.
	Peach Twig Borer	2/3 qt. per 100 gals. or 2 2/3 - 3 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Lesser Peachtree Borer, Peachtree Borer	2/3 - 1 qt. per 100 gals. or 2 2/3 - 3 1/3 qts. per acre	Best control is obtained with a single application post-harvest after the leaves have dropped. Spray all bark areas from ground level to lower scaffold limbs.
	<ul style="list-style-type: none"> <li>Do not allow livestock to graze on treated orchard crops or grasses in treated areas.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2.5 lbs. active ingredient (i.e., 3 1/3 qts. of product) per acre per season.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>For airblast applications the use of a closed cab is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
POTATOES (1) (Except California)	Aphids, Armyworms, Colorado Potato Beetle, Green Stink Bug, Leafhopper, Plant Bugs, Potato Flea Beetle, Potato Leafhopper, Potato Tuberworm, Threelined Potato Beetle	2/3 - 1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed. For application by irrigation systems, apply the specified dosage of Thionex 3EC per acre. Follow all directions given under CHEMIGATION USE INSTRUCTIONS section of this label.
	European Corn Borer, Potato Psyllid	1 - 1 1/3 qts. per acre	
	False Chinch Bug, Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>Do not make more than 4 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
POTATOES (1) (California only)	Aphids, Armyworms, Colorado Potato Beetle, Green Stink Bug, Leafhopper, Plant Bugs, Potato Flea Beetle, Potato Leafhopper, Potato Tuberworm, Threelined Potato Beetle	2/3 - 1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	European Corn Borer, Potato Psyllid	1 - 1 1/3 qts. per acre	
	False Chinch Bug, Whitefly	1 1/3 qts. per acre	
	<ul style="list-style-type: none"> <li>Do not make more than 4 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
STRAW-BERRIES (4) (Except California)	Meadow Spittlebug, Strawberry Aphid, Tarnished Plant Bug, Whitefly	1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not reapply within 15 days or more than twice during a 35-day period when fruit is present.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
	Cyclamen Mite	1 1/3 qts. per acre in 400 gals. of water	Make applications when insects appear or feeding is noticed. Thoroughly wet the foliage, stem and crown of the plant.
	<ul style="list-style-type: none"> <li>For multiple applications, do not apply at intervals less than 35 days when fruit is present.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		



<b>STRAW-BERRIES (4)</b> (California only)	Meadow Spittlebug, Strawberry Aphid, Tarnished Plant Bug, Whitefly	1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Do not reapply within 15 days or more than twice during a 35-day period when fruit is present.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
	Cyclamen Mite	1 1/3 qts. per acre in 400 gals.	Make applications when insects appear or feeding is noticed. Thoroughly wet the foliage, stem, and crown of the plant. For multiple applications, do not apply at intervals less than 35 days when fruit is present.
	<ul style="list-style-type: none"> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>		
<b>SWEET CORN (Fresh Vegetable Use Only) (1)</b> (Except California)	Corn Leaf Aphid, Whitefly	1 1/3 qts. per acre	Make application when insects appear or feeding is noticed.
	Corn Earworm	2 qts. per acre	Make a single application when silks first appear.
<ul style="list-style-type: none"> <li>Do not apply to sweet corn to be processed.</li> <li>Do not feed treated forage or ensilage to livestock or allow livestock to graze in treated fields.</li> <li>Do not make more than 1 application per season.</li> <li>Do not exceed a maximum of 1.5 lbs. active ingredient (i.e., 2 qts. of product) per acre per season.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 17 days.</li> </ul>			
<b>SWEET CORN (Fresh Vegetable Use Only) (1)</b> (California only)	Corn Leaf Aphid, Whitefly	1 1/3 qts. per acre	Make application when insects appear or feeding is noticed.
	Corn Earworm	2 qts. per acre	Make a single application when silks first appear.
<ul style="list-style-type: none"> <li>Do not apply to sweet corn to be processed.</li> <li>Do not feed treated forage or ensilage to livestock or allow livestock to graze in treated fields.</li> <li>Do not make more than 1 application per season.</li> <li>Do not exceed a maximum of 1.5 lbs. active ingredient (i.e., 2 qts. of product) per acre per season.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 17 days.</li> </ul>			
<b>SWEET POTATOES (1)</b> (Except California)	Sweet Potato Flea Beetle, Sweet Potato Weevil	2/3 qt. per acre	Make applications when insects appear or feeding is noticed. For flea beetle control, begin applications shortly after transplanting or as soon as flea beetles appear. For sweet potato weevil control, apply in sufficient water for complete coverage. Applications may be made to transplants in the nursery and/or in the field. Repeat applications may be made as necessary. For sweet potato weevil control in a clean up program, apply at a rate of 2 2/3 qts. per acre to the soil under the sweet potato nursery beds and to the area immediately surrounding the nursery beds. Do not place the seed tubers directly on the ground treated with endosulfan.
	Whitefly	1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Banded Cucumber Beetle Larvae (aids in control) (South Central States and Puerto Rico Only)	1 1/3 – 2 2/3 qts. per acre broadcast or 1/2 to 1 qt. per acre on a 16-inch band over the row (48-inch row spacing).	Work into the soil to a depth of approximately 3 inches. Treatment should be made just prior to plant set.
	<ul style="list-style-type: none"> <li>Do not feed cull potatoes to livestock or allow livestock to graze in treated fields.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 3 days.</li> </ul>		
<b>SWEET POTATOES (1)</b> (California only)	Sweet Potato Flea Beetle, Sweet Potato Weevil	2/3 qt. per acre	Make applications when insects appear or feeding is noticed. For flea beetle control, begin applications shortly after transplanting or as soon as flea beetles appear. For sweet potato weevil control, apply in sufficient water for complete coverage. Applications may be made to transplants in the nursery and/or in the field. Repeat applications may be made as necessary.
	<ul style="list-style-type: none"> <li>Do not feed cull potatoes to livestock or allow livestock to graze in treated fields.</li> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 1 1/2 lbs. active ingredient (i.e., 2 qts. of product) per acre per season.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> <li>Restricted-Entry Interval (REI) is 3 days.</li> </ul>		

<b>TOBACCO (5)</b> (For Use in IN, KY, OH, PA, TN, and WV only)	Aphids (including Green Peach Aphid, Tobacco Aphid), Budworm, Cabbage Looper, Flea Beetles, Hornworms	2/3 qt. per 100 gals.	<b>Seed Bed:</b> Make applications when insects appear or feeding is noticed. Apply about 6 gals. of finished spray per 100 square yards.
	Green June Bug Larvae	2/3 pt. per 100 gals.	<b>Plant Bed:</b> Make applications when insects appear or feeding is noticed. Drench at a rate of 1 gal. per square yard.
	Aphids (including Green Peach Aphid, Tobacco Aphid), Budworm, Cabbage Looper, Flea Beetles, Green June Bug Larvae, Hornworms	2/3 – 1 1/3 qts. per acre	<b>Field:</b> Make applications when insect activity or feeding is noticed.
	Stink Bugs	2/3 qt. per 100 gals.	<b>Field:</b> Make applications when insect activity or feeding is noticed.
<ul style="list-style-type: none"> <li>Do not make more than 2 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>			
<b>TOMATOES</b> (Field and Greenhouse) (2) (Except California)	Aphid, Blister Beetle, Colorado Potato Beetle, Flea Beetle, Tomato Hornworm	2/3 – 1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Cabbage Looper, Stink Bug	1 – 1 1/3 qts. per acre	
	Tomato Fruitworm, Tomato Russet Mite, Whitefly, Yellowstriped Armyworm	1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Whitefly	2/3 qt. per 100 gals. of water Use 100-200 gals. of spray per acre	Make applications when insects appear or feeding is noticed. Higher spray volumes may be necessary for thorough coverage when high whitefly populations exist.
<ul style="list-style-type: none"> <li>Do not make more than 4 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>			
<b>TOMATOES</b> (Field and Greenhouse) (2) (California only)	Aphids, Blister Beetle, Colorado Potato Beetle, Flea Beetle, Tomato Hornworm, Webworm	2/3 – 1 1/3 qts. per acre	Make applications when insects appear or feeding is noticed.
	Cabbage Looper, Stink Bug	1 – 1 1/3 qts. per acre	
	Tomato Fruitworm, Tomato Russet Mite, Whitefly, Yellowstriped Armyworm	1 1/3 qts. per acre	
	Whitefly	2/3 qt. per 100 gals. Use 100-200 gals. of spray per acre	Make applications when insects appear or feeding is noticed. Higher spray volumes may be necessary for thorough coverage when high whitefly populations exist.
<ul style="list-style-type: none"> <li>Do not make more than 4 applications per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> </ul>			
<b>WALNUTS</b> (Except California)	Walnut Aphid	2 – 2 2/3 qts. per acre	Make application when insects appear or feeding is noticed. Apply in a minimum of 100 gals. of water per acre.
	<ul style="list-style-type: none"> <li>Do not apply after husk split.</li> <li>Do not graze livestock on orchard crops or grasses in treated areas.</li> <li>Do not make more than 1 application per season.</li> <li>Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2 2/3 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 2 days.</li> <li>For airblast applications the use of a closed cab is required.</li> <li>For aerial application, the use of a closed mixing/loading system is required.</li> </ul>		

**COMMERCIALLY GROWN ORNAMENTALS**  
Grown Outdoors in Nurseries ONLY  
Ornamental Trees And Shrubs

CROP	INSECTS CONTROLLED	RATE OF APPLICATION	METHOD OF APPLICATION
<b>DOGWOOD, LILAC</b> (Except California)	Dogwood Borer, Lilac Borer	3/4 qt. per 100 gals. (1 1/3 teaspoons per gal.)	Apply in early June and repeat in 10 to 14 days. Drench all bark areas down to the ground level.
	<ul style="list-style-type: none"> <li>Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides.</li> <li>Do not exceed a maximum of 3 lbs. active ingredient (i.e., 4 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) of 48 hours.</li> </ul>		
<b>DOUGLAS FIR</b> (Grown for Ornamentals,	Aphids, Cooley Spruce Gall Adelgid, Douglas Fir Needle Midge	2/3 qt. per 100 gals. (1 1/3 teaspoons per gal.)	Make applications when insects appear or feeding is noticed. For control of gall adelgid, apply when white cottony tufts appear. For control of needle midge, apply in late April or early May just before buds open.

Nursery Stock or Christmas Trees (Pacific Northwest Only)	<ul style="list-style-type: none"> <li>Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides.</li> <li>Do not exceed a maximum of 3 lbs. active ingredient (i.e., 4 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) of 48 hours.</li> </ul>		
PINES (Austrian, Jack, Red, Scotch, White) (Except California)	Zimmerman Pine Moth	3/4 qt. per 100 gals. (1 1/3 teaspoons per gal.)	Apply in mid-April and again, if necessary, in late fall. Thoroughly wet bark and main stem, especially where branches join main stem.
	<ul style="list-style-type: none"> <li>Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides.</li> <li>Do not exceed a maximum of 3 lbs. active ingredient (i.e., 4 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) of 48 hours.</li> </ul>		
SHADE TREES (Except Birch), SHRUBS (Except California)	Aphids	2/3 qt. per 100 gals. (1 1/3 teaspoons per gal.)	Make applications when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides.</li> <li>Do not exceed a maximum of 3 lbs. active ingredient (i.e., 4 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 48 hours.</li> </ul>		
SHADE TREES (Except Birch), SHRUBS (California only)	Aphids	2/3 qt. per 100 gals. (1 1/3 teaspoons per gal.)	Make applications when insects appear or feeding is noticed.
	<ul style="list-style-type: none"> <li>Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides.</li> <li>Do not exceed a maximum of 3 lbs. active ingredient (i.e., 4 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 48 hours.</li> </ul>		
SPRUCE (New England Area Only)	Spruce Gall Aphid	2/3 qt. per 100 gals. (1 1/3 teaspoons per gal.)	Apply in late-April or early-May when aphids are present but before galls are formed.
	<ul style="list-style-type: none"> <li>Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides.</li> <li>Do not exceed a maximum of 3 lbs. active ingredient (i.e., 4 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 48 hours.</li> </ul>		
TAXUS (Except California)	Taxus Bud Mite	2/3 qt. per 100 gals. (1 1/3 teaspoons per gal.)	Make 3 to 5 applications beginning in mid-May. Thoroughly spray foliage, twigs, and bark.
	Black Vine Weevil	1 1/3 qts. per 100 gals. (2 2/3 teaspoons per gal.)	Spray thoroughly and drench soil under the plants. Apply when the weevils first appear and repeat in 14 days.
	<ul style="list-style-type: none"> <li>Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides.</li> <li>Do not exceed a maximum of 3 lbs. active ingredient (i.e., 4 qts. of product) per acre per season.</li> <li>Restricted-Entry Interval (REI) is 48 hours.</li> </ul>		
LEATHERLEAF FERN (LEATHER HOLLY FERN) (Except California)	Leatherleaf Fern Borer	3/4 qt. per 100 gals. (1 1/2 teaspoons per gal.)	Begin treatment when first larval feeding is observed in the mid-vein area at the base of the leaflets. Repeat at intervals of 2 to 3 weeks as necessary.
	<ul style="list-style-type: none"> <li>Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides.</li> <li>Do not exceed a maximum of 3 lbs. active ingredient (i.e., 4 qts. of product) per acre per season.</li> <li>Do not use in the greenhouse.</li> <li>Restricted-Entry Interval (REI) is 48 hours.</li> </ul>		

**STORAGE AND DISPOSAL**

Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Do not store in or around the home. Do not store below 20°F (-7°C). Do not use or store near heat, open flame, or hot surfaces. Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lid and close tightly. Do not put concentrate or dilute material into food or drink containers. In case of spill, avoid contact, isolate area, and keep out animals and unprotected persons. Confine spills. Contact INFOTRAC: (800) 535-5053.

To confine spill: Dike surrounding area or absorb with sand, cat litter, or commercial clay. Place damaged package in a holding container. Identify contents.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA regional office for guidance.

**CONTAINER DISPOSAL:**

**Nonrefillable Container (five gallons or less):** Nonrefillable 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 a 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.

**Nonrefillable Container (greater than five gallons):** Nonrefillable 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 a mix tank. Fill the container 1/4 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.

**Refillable Container:** Refillable container. Refill this container with endosulfan only. Do not reuse 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 refiller. To clean the 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.  
**FOR 24-HOUR EMERGENCY ASSISTANCE (SPILL, LEAK OR FIRE), CALL INFOTRAC AT (800) 535-5053.**

**LIMITATION OF WARRANTY AND LIABILITY**

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following **CONDITIONS, DISCLAIMER OF WARRANTIES and LIMITATIONS OF LIABILITY.**

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Makhteshim Agan of North America, Inc. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of Makhteshim Agan of North America, Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

**LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Makhteshim Agan of North America, Inc.'s election, the replacement of product.

**CALIFORNIA SUPPLEMENTAL LABEL  
PROCEDURES FOR REDUCING RISK OF CONTAMINATION OF AQUATIC ECOSYSTEMS  
FOR CROP USES LISTED ON THE PRODUCT LABEL**

Endosulfan may be a source of contamination in aquatic ecosystems as a result of run-off from agricultural land due to discharge of irrigation water or during periods of heavy rainfall.

To minimize the chance of aquatic impact, the following conditions must be met to allow endosulfan applications:

**DIRECTIONS FOR USE (General)**

IN ADDITION TO SPECIFIC INSTRUCTIONS UNDER DIRECTIONS FOR USE ON THE PRINCIPAL LABELS, THE FOLLOWING CONDITIONS MUST ALSO BE FOLLOWED FOR USE IN CALIFORNIA:

1. Do not apply this product to fields during irrigation or irrigate for 72 hours following an application.
2. Do not apply this product through any type of irrigation system.
3. Do not apply more than 1½ lbs. a.i./acre/application or more than 3 lbs. a.i./acre/season. (Orchard crops and strawberries exempted on rate/acre/application restriction.)
4. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark.
5. Do not apply by ground or air within a distance of 300 feet to natural bodies of water including lakes, ponds, streams, and estuaries.

**FOR DRIFT CONTROL**

1. All application equipment should be properly maintained and calibrated using appropriate carriers.
2. Do not make aerial or ground applications during temperature inversions.
3. Make aerial or ground applications when the wind velocity favors on-target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 10 mph. Do not discharge at a height of more than 10 feet above the crop or target.
4. For aerial applications, a positive shutoff system shall be in place to control flow of liquid to spray nozzles as follows: Each individual nozzle shall be equipped with a check valve and the flow controlled by a suckback device or a boom pressure release device or each nozzle shall be equipped with a positive action valve.
5. For aerial applications, the spray boom must be mounted on the aircraft so as to minimize drift caused by wing tip or rotor vortices. The working boom length must not exceed 75% of wing span or rotor diameter.
6. Aircraft boom pressure shall not exceed 40 pounds per square inch.
7. Aircraft nozzles shall be equipped with orifices directed backward parallel to the horizontal axis of the aircraft in flight.
8. Aircraft nozzles shall not be equipped with any device or mechanism which would cause a sheet, cone, fan, or similar type dispersion of the discharged material except as otherwise provided.
9. Fixed wing aircraft and helicopters operating in excess of 60 mph shall be equipped with jet nozzles having an orifice not less than 1/16 inch in diameter (D-4 or larger).
10. Helicopters operating at 60 mph or less shall be equipped with nozzles having an orifice not less than 1/16 inch in diameter. A number 46 or equivalent whirlplate may be used.
11. For ground applications, equipment other than handguns shall be equipped with nozzles having an orifice not less than 1/16 inch in diameter or larger. Boom nozzles shall be operated at a boom pressure not to exceed 30 pounds per square inch.

**READ CONTAINER LABEL FOR COMPLETE USE INSTRUCTIONS**

**ACCEPTABLE SITES FOR ENDOSULFAN APPLICATION**

1. FIELDS, WITH NO DRAINS, HAVING CONTAINMENT THROUGH BERMS (able to hold irrigation water and normal rainwater), LEVEES AND NON-DRAINING CIRCULATION SYSTEMS.
2. FIELDS WITH DRAINS, BUT DRAINAGE FLOWS TO SUMP, FARM POND, EVAPORATION POND, OR RECIRCULATION SYSTEM WITHOUT DRAINAGE (uncontrollable overflow acceptable, e.g., 10 or 100 year flood). Only grower maintained recirculation systems without drainage are acceptable.
3. FIELDS WITH SURFACE DRAINS THAT NATURALLY FLOW ONTO PASTURELAND OR FALLOW FIELDS THAT HAVE NO CHANNLED DRAINAGE AND ARE AT LEAST 300 FEET LONG.

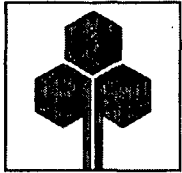
**UNACCEPTABLE SITES FOR ENDOSULFAN APPLICATION**

1. FIELDS DRAINING DIRECTLY INTO SURFACE WATERS SUCH AS STREAMS, RIVERS, LAKES, PONDS, MARSHES, BAYS, ESTUARIES, OR THE OCEAN.
2. FIELDS DRAINING INTO SURFACE DRAINAGE DITCHES OR CANALS THAT FLOW DIRECTLY INTO SURFACE WATERS SUCH AS STREAMS, RIVERS, LAKES, PONDS, MARSHES, BAYS, ESTUARIES, OR THE OCEAN.
3. ANY AND ALL FIELDS WITH SURFACE DRAINAGE PATTERNS IN THE MOSS LANDING DRAINAGE SYSTEM HAVING MAIN ARTERIES THAT DRAIN INTO THE ELKHORN SLOUGH (northern portion of Monterey County).
4. ANY AND ALL FIELDS WITH DRAINAGE PATTERNS IN THE SAN DIEGO CREEK DRAINAGE SYSTEM HAVING MAIN ARTERIES THAT DRAIN INTO NEWPORT BAY.

**ALL APPLICABLE DIRECTIONS, RESTRICTIONS, AND PRECAUTIONS ON THE EPA REGISTERED LABEL ARE TO BE FOLLOWED. THIS LABELING MUST BE IN THE POSSESSION OF THE USER AT THE TIME OF PESTICIDE APPLICATION.**

Thionex® is a registered trademark of Makhteshim Chemical Works, Ltd.

Thionex 3EC (66222-63)(EPA app 10-31-07)(EPA notif 06-03-08)



MAKHTESHIM  
A G A N  
NORTH AMERICA

**RESTRICTED USE PESTICIDE**  
Due to acute toxicity to humans, aquatic organisms, and avian species. 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.

# SUPPLEMENTAL LABELING

# THIONEX<sup>®</sup> 3EC

## INSECTICIDE

**For Agricultural or Commercial Use Only**  
**NOT FOR USE OR STORAGE IN OR AROUND RESIDENTIAL SITES-SEE Directions for Use/General instructions for prohibited areas**

<b>ACTIVE INGREDIENT</b>	<b>% BY WT.</b>
Endosulfan: (Hexachlorohexahydromethano-2,4,3-benzodioxathiepin-3-oxide).....	33.7%
<b>INERT INGREDIENTS:*</b> .....	<u>66.3%</u>
	<b>TOTAL 100.0%</b>

\*Contains Xylene Range Aromatic Solvent.  
Contains 3 pounds of endosulfan per gallon.

EPA Reg. No. 66222-63

Manufactured for:  
Makhteshim Agan of North America, Inc.  
4515 Falls of Neuse Rd., Suite 300  
Raleigh, NC 27609

**NET CONTENTS: 2 1/2 GALLONS**

**KEEP OUT OF REACH OF CHILDREN**

 **DANGER-POISON**   
**PELIGRO**

SEE OTHER PANELS FOR ADDITIONAL PRECAUTIONARY INFORMATION.

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.)

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Do not apply this product through any type of irrigation equipment.

OBSERVE DAYS INTERVAL BETWEEN LAST APPLICATION AND HARVEST INDICATED BY NUMBER IN ( ) THE FOLLOWING.

REI= Restricted Entry Interval

CROP	PESTS	RATE OF APPLICATION	METHOD OF APPLICATION
<b>ALMONDS</b> (58)	(Early infestation of): Peach twig borers	2.66 qts. per acre	<p>SPECIFIC DIRECTIONS: Apply during Popcorn, pink, or petal fall for control of early season infestation. Use in a minimum of 200 gals. of water per acre (dilute) or in 40 gals. per acre (concentrate). For areas less than 1 acre, use 0.7 qt. per 100 gals. of water.</p> <ul style="list-style-type: none"><li>• Do not graze livestock on orchard crops or grasses in treated areas. Treated hulls may be fed to livestock and dairy animals.</li><li>• Do not make more than 1 application per season.</li><li>• Do not exceed a maximum of 2 lbs. of active ingredient (2.66 qts.) per acre per season.</li><li>• For airblast application, the use of a closed cab is required.</li><li>• For aerial application, the use of a closed mixing/loading system is required.</li><li>• Restricted-Entry Interval (REI) is 2 days.</li><li>• A 30-foot vegetative buffer strip must be maintained between all areas treated with this product and rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries and commercial fish ponds.</li><li>• This product is extremely toxic to fish and aquatic invertebrates and toxic to birds and mammals. Do not apply within 100 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds. Apply as a directed spray to foliage. If using airblast, turn off outward pointing nozzles at row ends and outer rows. Apply only when wind speed is 3-10 mph at the application site as measured by an anemometer outside the orchard on the upwind side.</li></ul>

Thionex 3EC(EPA app 11-29-07)(almonds supplemental)