

19713-99

05-15-2009

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

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Luz G. Chan
Registration Manager
Drexel Chemical Company
P.O. Box 13327
Memphis, TN 38113-0327

MAY 15 2009

Subject: Label Notification(s) for Pesticide Registration Notice 98-10 and 2007-4
1. Updated warranty statement

Dear Ms. Chan:

The Agency is in receipt of your Application(s) for Pesticide Notification under Pesticide Registration Notices (PRN) 2007-4 and 98-10 dated February 25, 2009 for:

EPA Registration 19713-99

Drexel Endosulfuran 2EC

The Registration Division (RD) has conducted a review of this request for applicability under PR Notices 2007-4 and 98-10 and finds that the label changes requested falls within the scope of PR Notices 2007-4 and 98-10. 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 Nicole Williams of my staff at 703-308-5551.

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



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 19713-99	2. EPA Product Manager Kimberly Nesci	3. Proposed Classification <input type="checkbox"/> None <input checked="" type="checkbox"/> Restricted
4. Company/Product (Name) DREXEL ENDOSULFAN 2EC	PM# 11/Insecticide Branch	
5. Name and Address of Applicant (Include ZIP Code) Drexel Chemical Company P.O. Box 13327 Memphis, TN 38113-0327 <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. <u>NOTIFICATION</u> Product Name <u>MAY 15 2009</u>	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated <u>1/22/2009</u>
<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.)

Submission of revised label (99SP-0209*) incorporating EPA's comments of 1/22/09 and revision on storage and disposal statement per PR Notice 2007-4.
Thank you.

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 type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
		If "Yes" Package wgt	No. per container	<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 1, 2.5, 5, 10, 15, 30, 55, Bulk		5. Location of Label Directions <input type="checkbox"/> On the container	
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 LUZ G CHAN	Title REGISTRATION MANAGER	Telephone No. (Include Area Code) (501) 774-4370
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 <i>Luza Chan</i> 2009.02.25 12:06:59 -06'00'	3. Title REGISTRATION MANAGER	
4. Typed Name LUZ G CHAN	5. Date February 25, 2009	

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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.



NOTIFICATION

MAY 15 2009

Endosulfan 2EC

Insecticide

For Agricultural or Commercial Use Only. Not for use or storage in or around residential sites – See DIRECTIONS FOR USE for prohibited areas.

ACTIVE INGREDIENT:

Endosulfan	24.6%
OTHER INGREDIENTS*:	75.4%
TOTAL:	100.0%

This product contains 2 pounds of Endosulfan per gallon.
*Contains xylene range aromatic solvent.

KEEP OUT OF REACH OF CHILDREN
DANGER  **PELIGRO**
POISON  **VENENO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See FIRST AID Below
SHAKE WELL BEFORE USING

EPA Reg. No: 19713-99

EPA Est. No: 19713-XX-XXX

Net Content: _____

FIRST AID

IF SWALLOWED:

- Call a poison control center or doctor immediately for treatment advice.
- Do not give any liquid to the person.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious or convulsing person.

IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 to 20 minutes.

IF INHALED:

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.

Call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information on this pesticide product (including health concerns, medical emergencies or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378.

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.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

DANGER: Fatal if swallowed, inhaled, or absorbed through skin. Corrosive. Causes irreversible eye damage. Do not get in eyes, on skin or on clothing. Do not breathe vapor or spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Wear appropriate protective clothing listed below. Remove and wash contaminated clothing before reuse.

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 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:

- 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 number prefix TC-14G), or a NIOSH approved respirator with an (OV) cartridge or a canister with any R, P or HE prefilter.

IN ADDITION:

All mixers and loaders who are not using engineering controls (see engineering 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 when flagging), goggles or face shield, chemical-resistant head gear when exposed overhead, and chemical-resistant apron when mixing and loading.

All other mixers, loaders, applicators, and 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 apron when mixing and loading, applying dips, cleaning up spills or cleaning/repairing equipment, and 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.



Manufactured By:

Drexel Chemical Company

P.O. BOX 13327, MEMPHIS, TN 38113-0327

SINCE 1972



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ENGINEERING CONTROLS

Mixers and loaders supporting aerial applications at the rate of more than 1.5 lbs. ai. 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.
 - Wear protective eyewear (face shield or goggles), if the system operates under pressure.
 - Be provided and have immediately available for use in an emergency, such as a broken package, spill, or equipment breakdown: coveralls, 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 in the WPS 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 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 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: 1) Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. 2) Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. 3) 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.

CHEMICAL AND PHYSICAL HAZARDS

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

DIRECTIONS FOR USE

RESTRICTED USE PESTICIDE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. **DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM.** This product is not intended for use in CA. 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 (WPS), 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, 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), restricted entry interval (REI), and notification to workers. The requirements in this box only apply to uses of this product that are covered by the WPS.

Do not enter or allow worker entry into treated areas during the REI. Exception: If the product is soil-injected or soil-incorporated, the WPS, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the WPS 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, and shoes plus socks.

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

GENERAL INFORMATION

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

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 this product used.

Do not plant root crops other than Carrots, Potatoes, Sweet potatoes and Sugar beets as follow-up crops. Observe days interval between last application and harvest.

SPRAY DRIFT MANAGEMENT

1. 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.
2. 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.
3. 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 fine, medium or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles.
4. For orchard 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 and turn off outward pointing nozzles at row ends and outer rows. Apply only when wind speed is 3 to 10 mph as measured by an anemometer outside of the orchard on the upwind side.
5. 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 to 10 mph as measured by an anemometer. Use fine, 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.
6. The applicator also must use all other measures necessary to control drift.

ADDITIONAL USE RESTRICTIONS

- The use of high pressure hand wand on all sites except for Bark treatment or Tobacco drench is prohibited.
- If using high pressure hand wand equipment or Rights-of-Way sprayers, reduce the maximum rate of application to 0.005 lb. active ingredient (0.32 fl. oz. of this product) per gallon.

REI = Restricted Entry Interval

Crop	Pests	Rate of Application	PHI (Days)
Almonds	Early infestation of Peach twig borers	4 qts. per acre (dilute)	58
	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 1 qt. per 100 gals. of water.		
REI = 2 days			
NOTE: Do not graze livestock on orchard crops or grasses in treated areas. Treated hulls may be fed to livestock and dairy animals. Do not make more than 1 application per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season. For airblast application, the use of a closed cab is required. For aerial application, the use of a closed mixing/loading system is required.			
Apples	Apple aphids, Apple rust mites, Rosy apple aphids	1 qt. per 100 gals. of water or a maximum of 5 qts. per acre	21
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed. If necessary, prior to petal fall, use 12 qts. per 100 gals. to control Apple aphids and Rosy apple aphids.		
REI = 2 days			
<i>(Continued)</i>			

Crop	Pests	Rate of Application	PHI (Days)
<p>NOTE: Do not feed pomace from treated Apples to livestock. Do not feed cull fruits to animals or allow livestock to graze in treated orchards. Do not make more than 2 applications during the fruiting period. Do not make more than 3 applications per year. Do not exceed a maximum of 2.5 lbs. of active ingredient (i.e., 5 qts.) per acre per season.</p> <p>For airblast application, the use of a closed cab is required.</p> <p>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).</p> <p>For aerial application, the use of a closed mixing/loading system is required.</p>			
Apricots, Peaches, Nectarines	Black cherry aphids, Black peach aphids, Catfacing insects, Green peach aphids, Peach silver mites, Peach twig borers, Rusty plum aphids	1 qt. per 100 gals. of water or a maximum of 5 qts. per acre	30
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.		
REI = 2 days	Lesser peach tree borers, Peach tree borers	1.5 qts. per 100 gals. of water or a maximum of 5 qts. per acre Southeastern States: 3 to 5 qts. per 100 gals. of water	21
	SPECIFIC DIRECTIONS: Best control is obtained with a single application post-harvest during the first week of September. Spray all bark areas from ground level to lower scaffold limbs.		
<p>NOTE: Do not feed cull fruits or allow livestock to graze in treated areas. Do not make more than 2 applications per year. Do not exceed 2.5 lbs. of active ingredient (i.e., 5 qts.) per acre per season.</p> <p>For airblast application, the use of a closed cab is required.</p> <p>For aerial application, the use of a closed mixing/loading system is required.</p>			
Beans (Dry)	Black bean aphids, Bean leaf skeletonizers, Cucumber beetles, Green stink bugs, Mexican bean beetles	1 to 2 qts. per acre	3
	Western bean cutworms	2 qts. per acre	
SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.			
<p>NOTE: Do not feed treated threshings or allow livestock to graze in treated fields. Do not use on Lima beans as plant injury may occur. Do not make more than 2 applications per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.</p>			
Blueberries	Blueberry bud mites	3 qts. per acre in 300 gals. of water	—
	SPECIFIC DIRECTIONS: Apply to plants immediately after harvest and repeat 6 to 8 weeks later.		
<p>NOTE: Do not apply after buds are well formed. Do not make more than 2 applications per season. Do not exceed a maximum of 1.5 lbs. of active ingredient (i.e., 3 qts.) per acre per season.</p> <p>For aerial application, the use of a closed mixing/loading system is required.</p>			
Broccoli, Cabbage	Cabbage aphids, Cabbage loopers, Cross-striped cabbageworms, Diamondback moth larvae, Flea beetles, Harlequin bugs, Imported cabbageworms, Stink bugs	1.5 to 2 qts. per acre	7
	Armyworms, Cutworms	2 qts. per acre	
SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.			
<p>NOTE: Do not make more than 2 applications per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.</p>			

(Continued)

Crop	Pests	Rate of Application	PHI (Days)
Brussels sprouts, Cauliflower	Cabbage aphids, Cabbage loopers, Cross-striped cabbageworms, Diamond-back moth larvae, Flea beetles, Harlequin bugs, Imported cabbageworms, Stink bugs	1.5 to 2 qts. per acre	14
	Armyworms, Cutworms	2 qts. per acre	
SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.			
<p>NOTE: Do not make more than 2 applications per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.</p>			
Carrots	Green peach aphids	1 to 2 qts. per acre	7
	SPECIFIC DIRECTIONS: Apply when pest appears or feeding is noticed.		
<p>NOTE: Do not use tops for food or feed. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.</p>			
Celery	Green peach aphids	1 qt. per acre	4
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed. Do not make more than 1 application per season.		
	Green peach aphids	1 qt. per acre	7
SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed. Do not make more than 2 applications per season.			
<p>NOTE: Do not exceed a maximum of 1 lb. of active ingredient (i.e., 2 qts.) per acre per season.</p>			
Cherries	Black cherry aphids, Plum rust (nursery) mites	1 qt. per 100 gals. of water or 4 to 5 qts. per acre	21
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed. Mineola moths (MI only) – Use 2 qts. per 100 gals. of water. Apply in the delayed dormant period.		
<p>NOTE: Do not feed cull fruits to animals or allow livestock to graze in treated orchards. Do not make more than 2 applications per year. Do not exceed a maximum of 2.5 lbs. of active ingredient (i.e., 5 qts.) per acre per season.</p> <p>For airblast application, the use of a closed cab is required.</p> <p>For aerial application, the use of a closed mixing/loading system is required.</p>			
REI = 2 days	Collards	Cabbage loopers, Diamondback, moth larvae, Harlequin bugs, Imported cabbageworms	1.5 to 2 qts. per acre
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.		
<p>NOTE: For all uses, do not make more than 1 application per year. Do not exceed a maximum of 1 lb. of active ingredient (i.e., 2 qts.) per acre per season.</p>			
Cotton (AZ, NM, OK, and TX only)	Boll weevils	Ground: 1 to 3 qts. per acre Air: 1.5 qts. per acre	—
	Bollworms, Cabbage loopers, Cotton leaf perforators, Lygus bugs, Stink bugs	Ground: 2 to 3 qts. per acre Air: 1.5 qts. per acre	
REI = 2 days	Thrips	Ground: 3 qts. per acre Air: 1.5 qts. per acre	
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.		
<p>NOTE: Applications may be made using ground or aerial equipment. The higher rate should be used under heavy pest pressure. Do not apply after the bolls are open. Do not graze dairy or meat animals in treated fields. Do not make more than 2 applications per season. For ground application, do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season. For aerial application, do not exceed a maximum of 1.5 lbs. of active ingredient (i.e., 3 qts.) per season.</p> <p>For aerial application, the use of a closed mixing/loading system is required.</p> <p>For airblast application, the use of a closed cab is required.</p> <p>Only mechanical harvesting is permitted. Hand thinning/pruning is prohibited.</p>			

(Continued)

Crop	Pests	Rate of Application	PHI (Days)
Cucumbers, Melons, Summer and Winter squash	Aphids, Cucumber beetles, Striped flea beetles, Melonworms, Pickleworms, Rindworms (on Watermelons), Squash beetles, Squash bugs, Squash vine borers	1 to 2 qts. per acre	2
	Cabbage loopers, Omnivorous leafrollers	2 qts. per acre	
REI = 2 days	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed. For Squash vine borer control, apply weekly to flower buds, stems and vines beginning when moths first appear.		
NOTE: Do not make more than 4 applications per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.			
Eggplant	Blister beetles, Colorado potato beetles, Flea beetles, Green peach aphids, Green stink bugs, Whiteflies	1 to 2 qts. per acre	1
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.		
REI = 2 days			
NOTE: For all uses, do not make more than 2 applications per season. Do not exceed 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.			
Kale	Flea beetles, Harlequin bugs, Imported cabbageworms	1.5 qts. per acre	21
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.		
REI = 2 days			
NOTE: For all uses, do not make more than 1 application per year. Do not exceed a maximum of 0.75 lb. of active ingredient (i.e., 1.5 qts.) per acre per season.			
Lettuce	Cabbage loopers, Green peach aphids, Diamond-back moth larvae, Imported cabbageworms	1.5 to 2 qts. per acre	14
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.		
REI = 2 days			
NOTE: On Head lettuce: Do not make more than 2 applications per season. Remove wrapper leaves at harvest. On Leaf lettuce: Do not make more than 2 applications per season. For all uses, do not feed crop refuse to livestock. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.			
Mustard greens	Aphids, Cabbage loopers, Imported cabbageworms	1.5 to 2 qts. per acre	21
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.		
REI = 2 days			
NOTE: Do not make more than 1 application per year. Do not exceed a maximum of 1 lb. of active ingredient (i.e., 2 qts.) per acre per season.			
Pears	Conspere stink bugs (Soil treatment)	1 qt. per 100 gals. of water or 5 qts. per 200 to 400 gals. per acre	7
	SPECIFIC DIRECTIONS: Apply to orchard floor and ground around trees prior to bloom		
	Conspere stink bugs (Foliar treatment)	1 qt. per 100 gals. of water or 4 to 5 qts. per acre	7
	NOTE: Stink bugs must be wet by spray to obtain control.		
REI = 2 days	Pear rust mites	1 qt. per 100 gals. of water or 5 qts. per acre	7
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.		
	Pear leaf blister mites	0.5 to 1 qt. per 100 gals. of water or 5 qts. per acre	7
	SPECIFIC DIRECTIONS: Apply to trees as a post-harvest or dormant treatment.		
Pears	Pear psylla	5 qts. per acre	7
	SPECIFIC DIRECTIONS: 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.		

(Continued)

Crop	Pests	Rate of Application	PHI (Days)
NOTE: Do not feed cull fruits to animals or allow livestock to graze in treated orchards. Do not exceed a maximum of 2.5 lbs. of active ingredient (i.e., 5 qts.) per acre per season. Aerial application may not result in satisfactory control and should only be employed if impossible to apply by ground. For aerial application, the use of a closed mixing/loading system is required. For airblast application, 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).			
Peas, dry (except seed crop) (Northwest Only)	Pea aphids, Pea weevils	1 to 2 qts. per acre	5
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.		
REI = 2 days			
NOTE: Use only on Peas to be harvested by combine. Do not feed treated vines or threshings to livestock or allow livestock to graze treated fields. Do not make more than 2 applications per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.			
Peppers	Flea beetles, Green peach aphids, Hornworms, Pepper maggots	1 to 2 qts. per acre	4
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.		
REI = 2 days			
NOTE: Do not make more than 2 applications per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.			
Plums, Prunes	Peach tree borers	1 to 1.5 qts. per 100 gals. of water or 4 to 5 qts. per acre	7
	SPECIFIC DIRECTIONS: Best control is obtained with a single application post-harvest during the first week of September. Spray all bark areas from ground level to lower scaffold limbs.		
REI = 2 days			
NOTE: Do not allow livestock to graze on orchard crops or grasses in treated areas. Do not exceed a maximum of 2.5 lbs. of active ingredient (i.e., 5 qts.) per acre per season. For airblast application, the use of a closed cab is required. For aerial application, the use of a closed mixing/loading system is required.			
Potatoes	Aphids, Armyworms, Colorado potato beetles, Green stink bugs, Leaf-footed bugs, Plant bugs, Potato flea beetles, Potato leafhoppers, Potato tuberworms, Three-lined potato beetles	1 to 2 qts. per acre	1
	European corn borers, Potato psyllid	1.5 to 2 qts. per acre	
	False chinch bugs, Whiteflies	2 qts. per acre	
	SPECIFIC DIRECTIONS: Apply when pests first appear or feeding is noticed.		
REI = 2 days			
NOTE: Do not make more than 4 applications per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.			
Pumpkins	Aphids, Cucumber beetles, Squash vine borers	1 to 2 qts. per acre	2
	SPECIFIC DIRECTIONS: Apply when pests first appear or feeding is noticed. For Squash vine borer control, apply weekly to flower buds, stems and vines beginning when moths first appear.		
REI = 2 days			
NOTE: For all uses, do not make more than 4 applications per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.			

(Continued)

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Crop	Pests	Rate of Application	PHI (Days)
Strawberries	Meadow spittlebugs, Strawberry aphids, Tarnished plant bugs	1 qt. per 100 gals. or 2 qts. per acre	4
	SPECIFIC DIRECTIONS: Apply a minimum of 150 gals. of water per acre. Apply when pests appear or feeding is noticed. Do not reapply within 15 days or more than twice during a 35-day period when fruit is present.		
	Cyclamen mites	2 qts. per acre in 400 gals. of water	4
	SPECIFIC DIRECTIONS: Apply when pests 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.		
REI = 2 days			
NOTE: Do not make more than 2 applications per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season. For aerial application, the use of a closed mixing/loading system is required.			
Sweet corn (Fresh vegetable use only)	Corn earworms	3 qts. per acre	1
	SPECIFIC DIRECTIONS: Make a single application when silks first appear.		
	Corn leaf aphids	2 qts. per acre	1
REI = 17 days			
NOTE: Do not apply to Sweet corn to be processed. Do not feed treated forage or ensilage to livestock or allow livestock to graze in treated fields. Do not make more than 1 application per season. Do not exceed 1.5 lbs. of active ingredient (i.e., 3 qts.) per acre per season. For aerial application, the use of a closed mixing/loading system is required.			
Sweet potatoes	Sweet potato flea beetles	1 qt. per acre	1
	SPECIFIC DIRECTIONS: Begin applications shortly after transplanting or as soon as Flea beetles appear.		
	Banded cucumber beetle larvae (aids in control) (South Central States Only)	2 to 4 qts. per acre broadcast or 0.66 to 1.33 qts. per acre in a 16 inch band over the row (48 inch row spacing)	1
REI = 3 days			
NOTE: Do not feed cull potatoes to livestock or allow livestock to graze in treated fields. Do not make more than 2 applications per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season. For aerial application, the use of a closed mixing/loading system is required.			
Tobacco (IN, KY, OH, PA, TN, and WV only)	Budworms, Cabbage loopers, Flea beetles, Green peach aphids, Hornworms	Field: 1 to 2 qts. per acre	5
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.		
	Budworms, Cabbage loopers, Flea beetles, Green peach aphids, Hornworms	Seed Bed: 1 qt. per 100 gals. of water	5
	SPECIFIC DIRECTIONS: Apply about 6 gals. of finished spray per 100 sq. yds. Apply when pests appear or feeding is noticed.		
	Green June bug larvae	Plant Bed: 0.5 qt. per 100 gals. of water	5
REI = 2 days			
NOTE: Do not make more than 2 applications per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.			
<i>(Continued)</i>			

Crop	Pests	Rate of Application	PHI (Days)
Tomatoes (Field & Greenhouse) REI = 2 days	Blister beetles, Colorado potato beetles, Flea beetles, Green peach aphids, Tomato hornworms	1 to 2 qts. per acre	2
	Tomato fruitworms, Tomato russet mites, Yellowstriped armyworms	2 qts. per acre	
	Cabbage loopers, Stink bugs	2 qts. per acre	
	Whiteflies	1 qt. per 100 to 200 gals. of water per acre	
	SPECIFIC DIRECTIONS: Apply when pests appear or feeding is noticed.		
NOTE: Do not make more than 4 applications per season. Do not exceed a maximum of 2 lbs. of active ingredient (i.e., 4 qts.) per acre per season.			

COMMERCIALLY GROWN ORNAMENTALS GROWN OUTDOORS IN NURSERIES ONLY

Ornamental Trees and Shrubs (REI = 2 days)

Use Restriction: Do not apply more than 2.5 lbs. a.i. (5 qts. of this product) per acre per application on ornamental trees and shrubs.

Crop	Pests	Rate of Application
Box elder	Box elder bugs	1 qt. per 100 gals. of water (2 tsps. per gal.)
	SPECIFIC DIRECTIONS: Spray foliage and trunk when insects first appear. Repeat as required in late Summer or Fall. Spray tree trunks, outside walls, fences and other places where bugs congregate.	
NOTE: Food utensils such as spoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3 lbs. of active ingredient (i.e., 6 qts.) per acre per year.		
Dogwood, Lilac	Dogwood borers, Lilac borers	1 qt. per 100 gals. of water
	SPECIFIC DIRECTIONS: Apply in early June and repeat in 10 to 14 days. Drench all bark areas down to the ground level.	
NOTE: Do not exceed a maximum of 3 lbs. of active ingredient (i.e., 6 qts.) per acre per year.		
Pines (Austrian, Jack, Red, Scotch, White)	Zimmerman pine moths	1 qt. per 100 gals. of water
	SPECIFIC DIRECTIONS: Apply in mid-April and again, if necessary, in late Fall. Thoroughly wet bark and main stem, especially where branches join the main stem.	
NOTE: Do not exceed a maximum of 3 lbs. of active ingredient (i.e., 6 qts.) per acre per year.		
Spruce (New England Area Only)	Spruce gall aphids	1 qt. per 100 gals. of water
	SPECIFIC DIRECTIONS: Apply in late April or early May when Aphids are present but before galls are formed.	
NOTE: Do not exceed a maximum of 3 lbs. of active ingredient (i.e., 6 qts.) per acre per year.		
Taxus	Taxus bud mites	1 qt. per 100 gals. of water
	SPECIFIC DIRECTIONS: Make 3 to 5 applications beginning in mid-May. Thoroughly spray foliage, twigs and bark.	
NOTE: Do not exceed a maximum of 3 lbs. of active ingredient (i.e., 6 qts.) per acre per year.		

