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53808

Ms. Nancy Hilton
FMC Corporation
Agricultural Products Group
1735 Market Street
Philadelphia, PA 19103

FEB 12 1998

Dear Ms. Hilton:

Subject: Amendment- Update directions for use;
Incorporate Agency's comments dated
November 13 & December 4, 1997
Thiodan 3EC
EPA Registration Number 279-2924
Your submission dated January 26, 1998
and associated FAX dated February 9, 1998

The amendment referred to above, submitted in connection with a registration under FIFRA section 3(c)(7)(a), is acceptable provided that you:

1. Submit and/or cite all data or other material required for registration/reregistration of your product under FIFRA section 3(c)(5) or FIFRA section 4 when the Agency requires all registrants of similar products to submit such data.

2. Make the labeling changes listed below at the next label printing or when preparing the actual finished label (if printing has not already occurred):

a) At the end of the **Note to Physicians**, correct "aspixiation" to read "aspiration" and correct "chemcial" to read "chemical".

b) In the **Personal Protective Equipment** (PPE) section, use a lower case "c" for "chemical-resistant" in the first introductory sentence. Revise the end of the PPE listing to read "and add a Chemical-resistant apron when cleaning equipment, mixing, or loading.". You cover letter showed the correct sentence, but that does not appear on the printed label. Also, from the middle of the PPE listing, delete "a Chemical-resistant apron when cleaning equipment, mixing,

or loading", since this now appears (preceded by "and add a") as the last item in this listing.

c) As we discussed by telephone, for **Apricots, Nectarines, and Peaches**, since, as indicated in your cover letter, Dr. Robert Ehn, FMC Technical Service Manager, states that this application to control Peachtree Borer and Lesser Peachtree Borer must be made in the absence of leaves for effective control, add "after the leaves have dropped" to the end of the sentence "Best control is obtained with a single application post-harvest.".

d) In the second Note for **Peas(Succulent)**, add "livestock" after "allow".

e) As we discussed by telephone, for **Plums and Prunes**, since, as indicated in your cover letter, Dr. Robert Ehn, FMC Technical Service Manager, states that this application to control Peachtree Borer and Lesser Peachtree Borer must be made in the absence of leaves for effective control, add "after the leaves have dropped" to the end of the sentence "Best control is obtained with a single application post-harvest.".

f) For **Tomatoes**, there are two different rates given for Whitefly control, 1 1/3 qts. per acre (no amount of water specified) and 2/3 qt. per acre (in 100 to 200 gallons of water). You have indicated by telephone that you would like to maintain the double entry, at least for the time being. One way to have the two rates approach equality would be to revise the second Rate of Application entry to read "2/3 quart per 100 gallons of water. Use 100 to 200 gallons of spray per acre.". Using 200 gallons would thus equal the 1 1/3 quarts per acre rate that appears above, and would still use the Method of Application note "Higher spray volumes may be necessary for thorough coverage when high Whitefly populations exist.".

g) For Walnuts, the Agency notes a discrepancy between your label and your cover letter. You have revised the label to state "2 to 2 2/3 quarts per acre. Apply in a minimum of 100 gallons of water per acre.". The Agency has no objection to this revision because it now is in agreement with your other endosulfan labels (1 1/2 to 2 lbs. a.i. per acre) and the change from your old Thiodan Cottonseed Oil California label's recommendation of a minimum of 150 gallons of water per acre to a minimum of 100 gallons of water per acre presumably reflects changes in the application equipment/ methods in use today (although no explanation of the change from 150 to 100 gallons was given in your cover letter). In

fact, your cover letter indicated that your were not going to revise this label to be in agreement with your other endosulfan labels because Dr. Ehn recommended that this label remain as is. No justification of why this label should be different was given, despite the fact that, presumably, the same residue data is used to support all of your endosulfan labels.

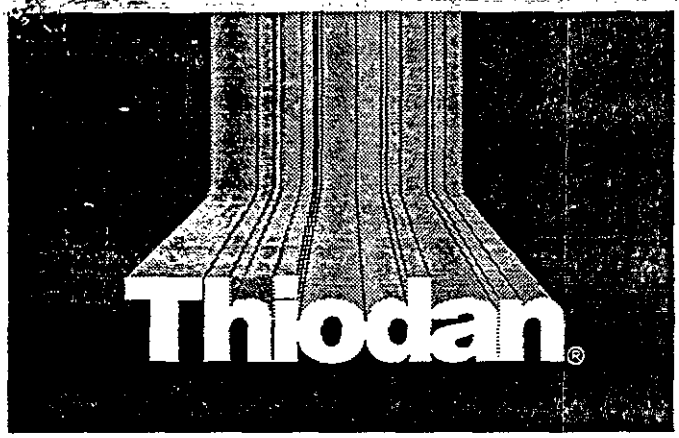
A stamped copy of the label is enclosed for you records.

Sincerely,

George T. LaRocca
Product Manager 13
Insecticide/Rodenticide Branch
Registration Division (7505C)

Code 3212

Net Contents



ACCEPTED
with COMMENTS
In EPA Letter Dated

FEB 12 1998

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 279-2924

3 EC Insecticide

For Agricultural or Commercial Use Only.

EPA Reg. No. 279-2924 EPA Est. 279-

Active Ingredient:	By Wt.
*Endosulfan: (Hexachlorohexahydromethano-2,4,3-benzodioxathiepin 3-oxide)	33.7%
Inert Ingredients:**	66.3%
	100.0%

*Thiodan
**Contains Xylene Range Aromatic Solvent.
Thiodan 3 E.C. contains 3 pounds of endosulfan per gallon.

KEEP OUT OF REACH OF CHILDREN

DANGER-POISON
PELIGRO

See Other Panels for Additional Precautionary Information.

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

FMC®

FMC Corporation
Agricultural Products Group
Philadelphia PA 19103

11/97 draft

STATEMENT OF PRACTICAL TREATMENT

If swallowed: Call a physician or Poison Control Center immediately. If possible, vomiting should be induced under medical supervision. Drink one or two glasses of water and induce vomiting by giving one (1) ounce of syrup of ipecac, if available, or by touching the back of the throat with a finger. Do not induce vomiting or give anything by mouth to a person who is unconscious or convulsing.

If inhaled: Remove victim to fresh air. Apply artificial respiration if indicated. Get medical attention.

If on skin: Remove contaminated clothing and wash skin with soap and water. Get medical attention.

If in eyes: Flush eyes with plenty of water. Call a physician immediately.

Note to Physicians: 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 aspixiation because of the possibility of chemcial pneumonia or pulmonary edema due to the organic solvent in the formulation.

For Emergency Assistance Call (800) 331-3148.

PRECAUTIONARY STATEMENTS

Hazards to Humans (and Domestic Animals)

Danger

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

Personal Protective Equipment:

Some materials that are Chemical-resistant to this product are listed below. If you want more options, follow the instructions for category G on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear: Coveralls over long-sleeved shirt and long pants; Chemical-resistant gloves, such as Barrier Laminate or Viton $\geq$ 14 mils; Chemical-resistant footwear plus socks; Protective eyewear; Chemical-resistant headgear for overhead exposure; a Chemical-resistant apron when cleaning equipment, mixing, or loading; a Respirator with either 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); and a chemical-resistant apron when cleaning equipment, mixing or loading.

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

Engineering Control Statement

When handlers use closed systems, enclosed cabs, or aircraft 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 immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This product is toxic to fish, birds, and other wildlife. Birds feeding on treated areas may be killed. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Due to the risk of runoff and drift, do not apply within a distance of 300 feet of lakes, ponds, streams, and estuaries. Shrimp and crab may be killed at application rates recommended on this label. Do not apply where fish, shrimp, crab, and other aquatic life are important resources. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters. 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/Chemical Hazards

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.

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

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) of 24 hours.

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 over long-sleeved shirt and long pants; Chemical-resistant gloves, such as Barrier Laminate or Viton ≥ 14 mils; Chemical-resistant footwear plus socks; Protective eyewear; Chemical-resistant headgear for overhead exposure.

STORAGE AND 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 materials into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call FMC: 1 (800) 331-3148.

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
Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Do not cut or weld metal containers.

Returnable/Refillable Sealed Containers
Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

This Product is not intended for Use in California under this label. See Supplemental Label for Directions for Use in California

GENERAL INSTRUCTIONS

Not For Use Or Storage In Or Around The Home.

Do not use in undiluted form.

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 Thiodan® 3 E.C. insecticide 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 indicated by number in ( ) following the crop.

6 7 12

Apples (21)

Insects Controlled	Rate of Application	Method of Application
Aphids (including Apple Aphid, Rosy Apple Aphid, Wooly Apple Aphid) Apple Rust Mite Green Fruitworm Tarnished Plant Bug Tentiform Leafminers White Apple Leafhopper (first generation)	⅔ quart per 100 gallons or a maximum of 3⅓ quarts 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 quart per 100 gallons to control Apple Aphids and Rosy Apple Aphids. For control of Tentiform Leafminers, make first application as soon as moth flight begins. A second application should be made 10 days later.

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 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.

Apricots (21), Nectarines (21), Peaches (21)

Insects Controlled	Rate of Application	Method of Application
Peachtree Borer Lesser Peachtree Borer	1 quart per 100 gallons or 2⅔ to 3⅓ quarts per acre; *Pacific Northwest*—⅔ to 1 quart per 100 gallons; *Southeastern States*—2 to 3⅓ quarts per 100 gals.	Best control is obtained with a single application post-harvest. Spray all bark areas from ground level to lower scaffold limbs.

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 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.

Apricots (30), Nectarines (30), Peaches (30)

Insects Controlled	Rate of Application	Method of Application
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	⅔ quart per 100 gallons or a maximum of 3⅓ quarts per acre.	Make applications when insects appear or feeding is noticed.

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 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.

Barley, Oats, Rye, Wheat

Insects Controlled	Rate of Application	Method of Application
Army Cutworm	⅔ quart per acre	Apply when small larvae are readily found in the field. For aerial application, apply in 2 gallons of crop oil per acre.
Cereal Leaf Beetle (Illinois, Indiana, Michigan and Ohio only)	⅓ to ⅔ quart per acre	Apply when small larvae are readily found in the field. For aerial application, use a minimum of 1 to 2 gallons of water per acre.
Aphids (including Russian Wheat Aphid)	⅔ to 1 quart per acre	Make applications when insects appear or feeding is noticed.

Do not apply after heads begin to form.
Do not feed treated forage to livestock.
Do not make more than 2 applications per year.
Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 1⅓ quarts) per acre per year.

Beans, succulent and Dry (3) and Southern Field Peas (Succulent type, including Black-eyed Peas, Crowder Peas and Southern Peas) (3)

Insects Controlled	Rate of Application	Method of Application
Black Bean Aphid Bean Leaf Skeletonizer Cowpea Curculio Cucumber Beetles Flea Beetles Green Stink Bug Leafhoppers Mexican Bean Beetle	⅔ to 1⅓ quarts 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 ½ inch long.
Aphids Armyworms Western Bean Cutworm Whitefly	1⅓ quarts per acre	

Do not feed treated threshings or allow livestock to graze in treated fields.
Do not use on Lima Beans that are to be removed from the field for processing.
Do not make more than 3 applications per year.
Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.

Blueberries

Insects Controlled	Rate of Application	Method of Application
Blueberry Bud Mite	2 quarts per acre in 300 gallons of water.	Apply immediately after harvest and repeat 6 to 8 weeks later.

Do not apply after buds are well formed.
Do not make more than 2 applications per year.
Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.

Broccoli (7), Brussels Sprouts (14), Cabbage (7), Cauliflower (14)

Insects Controlled	Rate of Application	Method of Application
Cabbage Aphid Cabbage Looper Cross-striped Cabbageworm Diamondback Moth larvae Flea Beetles Harlequin Bug Imported Cabbageworm Leafhoppers Stink Bugs	1 to 1⅓ quarts per acre	Make applications when insects appear or feeding is noticed.
Armyworms Cutworms Whitefly	1⅓ quarts per acre	

Do not make more than 4 applications per year.
Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.

Carrots (7)

Insects Controlled	Rate of Application	Method of Application
Green Peach Aphid Leafhoppers	⅔ to 1⅓ quarts per acre	Make application when insects appear or feeding is noticed.
Armyworms Flea Beetles Whitefly	1⅓ quarts per acre	
Do not use tops for food or feed. Do not make more than one application per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 1⅓ quarts) per acre per year.		

Celery (4)

Insects Controlled	Rate of Application	Method of Application
Green Peach Aphid Cabbage Looper Leafhoppers	⅔ to 1⅓ quarts per acre	Make application when insects appear or feeding is noticed.
Armyworms Flea Beetles Whitefly	1⅓ quarts per acre	
Do not make more than one application per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 1⅓ quarts) per acre per year.		

Celery (7)

Insects Controlled	Rate of Application	Method of Application
Green Peach Aphid	⅔ quart per acre	Make applications when insects appear or feeding is noticed.
Do not make more than 2 applications per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 1⅓ quarts) per acre per year.		

Cherries (21)

Insects Controlled	Rate of Application	Method of Application
Peachtree Borer Lesser Peachtree Borer	1 quart per 100 gallons or 2⅔ to 3⅓ quarts per acre; *Pacific Northwest:* ⅔ to 1 quart per 100 gallons	Best control is obtained with a single application post-harvest. Spray all bark areas from ground level to lower scaffold limbs.
Black Cherry Aphid Green Fruitworm Plum Rust (Nursery) Mite	⅔ quart per 100 gallons or 2⅔ to 3⅓ quarts per acre	Make applications when insects appear or feeding is noticed.
Pacific Northwest only: Eyespotted 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	1⅓ quarts per 100 gallons	Apply in the delayed dormant period.
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 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Cherry, Peach, Plum Nursery Stock Dip

Insects Controlled	Rate of Application	Method of Application
Peachtree Borer	2⅔ quarts per 40 gallons	Mix thoroughly. Immerse trees so that the roots and crowns are covered well above the grafting bud scar.
Full Personal Protective Equipment (PPE) requirements for applicators also apply to this dipping operation. Plant immediately or dry before returning stock to storage.		

Citrus (Non-Bearing Trees and Nursery Stock)

Insects Controlled	Rate of Application	Method of Application
Citrus Aphid	⅔ quart per 100 gallons or a maximum of 3⅓ quarts per acre	Make applications when insects appear or feeding is noticed.
Do not apply to bearing trees or trees that will bear fruit within twelve months. Do not make more than 2 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Collards (21)

Insects Controlled	Rate of Application	Method of Application
Aphids Cabbage Looper Diamondback Moth larvae Fall Armyworm Flea Beetles Harlequin Bug Imported Cabbageworm Leafhoppers	1 to 1⅓ quarts per acre	Make application when insects appear or feeding is noticed.
Whitefly	1⅓ quarts per acre	
Do not make more than one application per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 1⅓ quarts) per acre per year.		

Cotton

Insects Controlled	Rate of Application	Method of Application
Aphids	½ to 1 quart per acre	Make applications when insects appear or feeding is noticed. For control of aphids, thorough coverage is important.
Boll Weevil	⅔ to 2 quarts per acre	
Bollworm Cabbage Looper Cotton Leafperforator Cotton Leafworm Fleahoppers Lygus Bugs Stink Bugs Tobacco Budworm	1⅓ to 2 quarts per acre	
Thrips	2 quarts per acre	
Whitefly	1⅓ quarts per acre	
Applications may be made using ground or aerial application equipment. The higher rate should be used under heavy pest pressure. Do not apply after bolls open. Do not graze dairy or meat animals in treated fields. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Cucumbers (2), Melons (2), Pumpkins (2), Summer and Winter Squash (2)

Insects Controlled	Rate of Application	Method of Application
Aphids Cucumber Beetles Melonworm Pickleworm Rindworm (on watermelons) Squash Beetle Squash Bug Squash Vine Borer Striped Flea Beetle	⅔ to 1⅓ quarts 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	1⅓ quarts per acre	
Do not make more than 6 applications per year. Do not exceed a maximum of 3.0 lb. active ingredient (i.e., 4 quarts) per acre per year.		

Eggplant (1)

Insects Controlled	Rate of Application	Method of Application
Blister Beetle Colorado Potato Beetle Flea Beetles Green Peach Aphid Green Stink Bug	⅔ to 1⅓ quarts per acre	Make applications when insects appear or feeding is noticed.
Whitefly	1⅓ quarts per acre	
Do not make more than 2 applications per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 1⅓ quarts) per acre per year.		

Grapes (7)

Insects Controlled	Rate of Application	Method of Application
Grape Leafhopper Grape Phylloxera (leaf form) Rose Chafer	⅔ quart per 100 gallons or 1⅓ to 2 quarts per acre	Make applications when insects appear or feeding is noticed.
Do not use on Concord variety as severe plant injury is likely to occur. Ground application is preferred. Do not make more than 3 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Kale (21)

Insects Controlled	Rate of Application	Method of Application
Cabbage Flea Beetle Harlequin Bug Imported Cabbageworm	1 quart per acre	Make application when insects appear or feeding is noticed.
Do not make more than one application per year. Do not exceed a maximum of .75 lb. active ingredient (i.e., 1 quart) per acre per year.		

Lettuce (14)

Insects Controlled	Rate of Application	Method of Application
Cabbage Looper Diamondback Moth larvae Green Peach Aphid Imported Cabbageworm Leafhoppers	1 to 1⅓ quarts per acre	Make applications when insects appear or feeding is noticed.
Armyworms Whitefly	1⅓ quarts per acre	
On Head Lettuce: Do not make more than 3 applications after thinning. Remove wrapper leaves at harvest. *On Leaf Lettuce:* Do not make more than 2 applications per year. Do not feed crop refuse to livestock. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Mustard Greens (21)

Insects Controlled	Rate of Application	Method of Application
Aphids Cabbage Looper Diamondback Moth larvae Fall Armyworm Flea Beetles Harlequin Bug Imported Cabbageworm Leafhoppers	1 to 1⅓ quarts per acre	Make application when insects appear or feeding is noticed.
Whitefly	1⅓ quarts per acre	
Do not make more than one application per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 1⅓ quarts) per acre per year.		

Pears (7)

Insects Controlled	Rate of Application	Method of Application
Green Fruitworm Tarnished Plant Bug	⅔ quart per 100 gallons or 2⅔ to 3⅓ quarts per acre	Make applications at white bud or petal fall when insects appear or feeding is noticed.
Pear Psylla	3⅓ quarts per acre	Apply in a minimum of 10 gallons of water for aerial application or in 300 gallons of water for dilute application. Apply when adults are first observed or nymphs are small and repeat to maintain control.
Pear Rust Mite Consperse Stink Bug (foliar treatment)	⅔ quart per 100 gallons or 2⅔ to 3⅓ quarts per acre	Make applications when insects appear or feeding is noticed. Stink Bugs must be wet by spray to obtain control.
Consperse Stink Bug (soil treatment)	⅔ quart per 100 gallons; 200 to 400 gallons per acre	Apply to orchard floor and around trees prior to bloom.
Pear Leaf Blister Mite	⅓ to ⅔ quart per 100 gallons	Apply to trees as a post harvest or dormant treatment.
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 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year. Note: Aerial application may not result in satisfactory control and should only be employed if impossible to apply by ground.		

Peas (Succulent) (5)

Insects Controlled	Rate of Application	Method of Application
Pea Aphid Pea Weevil Loopers Stink Bug Colorado Potato Beetle	⅔ to 1⅓ quarts per acre	Make applications when insects appear or feeding is noticed.
Use only on peas to be harvested by combine. Do not feed treated vines to livestock or allow to graze in treated fields. Do not make more than 2 applications ~~during the growing period~~ per year. Do not exceed a maximum of 2 lbs. active ingredient (i.e., 2⅔ quarts) per acre per year.		

Pecans

Insects Controlled	Rate of Application	Method of Application
Black Pecan Aphid Pecan Nut Casebearer Spittlebug	1 quart per 100 gallons	Make applications when insects appear or feeding is noticed. For Casebearer, apply when eggs of first generation appear on the tips of the young nuts. Another application may be required after the second generation of eggs is deposited. For Spittlebug, apply when first leaves are half grown and repeat as required.
Pecan Leaf Phylloxera	⅔ to 1 quart per 100 gallons	Apply when nymphs appear and before they are enclosed in plant tissue. For high populations, use the higher rate.
Do not apply after shuck split. Do not graze livestock on orchard crops or grasses in treated areas. Do not make more than 2 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Peppers (1)

Insects Controlled	Rate of Application	Method of Application
Flea Beetles Green Peach Aphid Hornworms Pepper Maggot	⅔ quart per acre	Make applications when insects appear or feeding is noticed.
Do not make more than 2 applications per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 1⅔ quarts) per acre per year.		

Peppers (4)

Insects Controlled	Rate of Application	Method of Application
Armyworms Flea Beetles Green Peach Aphid Hornworms Leafhoppers Pepper Maggot	⅔ to 1⅓ quarts per acre	Make applications when insects appear or feeding is noticed.
Whitefly	1⅓ quarts per acre	
Do not make more than 2 applications per year. Do not exceed a maximum of 2.0 lbs. active ingredient (i.e., 2⅔ quarts) per acre per year.		

Pineapple (For Fresh Market Only) (7)

Insects Controlled	Rate of Application	Method of Application
Pineapple Fruit Mite	2 to 2⅔ quarts 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.
Do not feed forage or pineapple by-products to livestock. Do not make more than 2 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Plums (7), Prunes (7)

Insects Controlled	Rate of Application	Method of Application
Fruittree Leafroller *(Pacific Northwest Only)*	⅔ quart per 100 gallons or 2⅔ to 3⅓ quarts per acre	Apply during pre-pink stage of growth when insects appear or feeding is noticed.
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	⅔ quart per 100 gallons or 2⅔ to 3⅓ quarts per acre	Make applications when insects appear or feeding is noticed.
Lesser Peachtree Borer Peachtree Borer	1 quart per 100 gallons or 2⅔ to 3⅓ quarts per acre. *Pacific Northwest*—⅔ to 1 quart per 100 gallons or 2⅔ to 3⅓ quarts per acre	Best control is obtained with a single application post-harvest. Spray all bark areas from ground level to lower scaffold limbs.
Do not allow livestock to graze on treated orchard crops or grasses in treated areas. Do not make more than 2 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Potatoes (1)

Insects Controlled	Rate of Application	Method of Application
Aphids Armyworms Colorado Potato Beetle Green Stink Bug Leaffootted Bug Plant Bugs Potato Flea Beetles Potato Leafhopper Potato Tuberworm Threelined Potato Beetle	⅔ to 1⅓ quarts per acre	Make applications when insects appear or feeding is noticed.
European Corn Borer Potato Psyllid	1 to 1⅓ quarts per acre	
False Chinch Bug Whitefly	1⅓ quarts per acre	
Do not make more than 6 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Spinach (21)

Insects Controlled	Rate of Application	Method of Application
Armyworms Crown Mite Flea Beetles Green Peach Aphid Leafhoppers	1 to 1⅓ quarts per acre	Make application when insects appear or feeding is noticed.
Whitefly	1⅓ quarts per acre	
Do not make more than one application per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 1⅓ quarts) per acre per year.		

Strawberries (4)

Insects Controlled	Rate of Application	Method of Application
Meadow Spittlebug Strawberry Aphid Tarnished Plant Bug Whitefly	1⅓ quarts per acre	Make applications when insects 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 Mite	2⅔ quarts per acre in 400 gallons of water	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.
Do not make more than 3 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Strawberries—Northwest Use Only

Insects Controlled	Rate of Application	Method of Application
Garden Symphylan (aids in reducing damage)	1⅓ quarts per 100 gallons	Mix thoroughly. Dip entire plant. When immersing bundles of plants, make certain any trapped air is forced out to assure thorough wetting of entire plant.
Full Personal Protective Equipment (PPE) requirements for applicators also apply to this dipping operation. Drain and allow plants to dry before setting them out in the field.		

Sweet Corn (Fresh Vegetable Use Only) (1)

Insects Controlled	Rate of Application	Method of Application
Corn Leaf Aphid Whitefly	1⅓ quarts per acre	Make applications when insects appear or feeding is noticed.
Corn Earworm	2 quarts per acre	Apply when silks first appear and continue until they begin to dry. Allow 5 days between applications.
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 3 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Sweet Potatoes (1)

Insects Controlled	Rate of Application	Method of Application
Sweet Potato Flea Beetle Sweet Potato Weevil	⅔ quart 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 2⅔ quarts 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 Thiodan®.
Whitefly	1⅓ quarts 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)	1⅓ to 2⅔ quarts per acre broadcast or ½ to 1 quart 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.
Do not feed cull potatoes to livestock or allow livestock to graze in treated fields. Do not make more than 3 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Tobacco (5)

Insects Controlled	Rate of Application	Method of Application
Aphids (including Green Peach Aphid, Tobacco Aphid) Budworm Cabbage Looper Flea Beetles Hornworms	*Seed Bed:* ⅔ quart per 100 gallons	Make applications when insects appear or feeding is noticed. Apply about 6 gallons of finished spray per 100 square yards.
Green June Bug larvae	*Plant Bed:* ⅔ pint per 100 gallons	Make applications when insects appear or feeding is noticed. Drench at a rate of 1 gallon per square yard.
Aphids (including Green Peach Aphid, Tobacco Aphid) Budworm Cabbage Looper Flea Beetles Green June Bug larvae Hornworms	*Field:* ⅔ to 1⅓ quarts per acre	Make applications when insect activity or feeding is noticed.
Stink Bugs	*Field:* ⅔ quart per 100 gallons	
Do not make more than 6 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Tomatoes (Field and Greenhouse) (2)

Insects Controlled	Rate of Application	Method of Application
Aphids Blister Beetles Colorado Potato Beetle Flea Beetles Tomato Hornworms	⅔ to 1⅓ quarts per acre	Make applications when insects appear or feeding is noticed.
Cabbage Looper Stink Bugs	1 to 1⅓ quarts per acre	
Tomato Fruitworm Tomato Russet Mite Whitefly Yellowstriped Armyworm	1⅓ quarts per acre	
Whitefly	⅔ quart per 100 or 200 gallons of water per acre	Higher spray volumes may be necessary for thorough coverage when high Whitefly populations exist.
Do not make more than 6 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Walnuts

Insects Controlled	Rate of Application	Method of Application
Walnut Aphid	2 to 2⅔ quarts per acre. Apply in a minimum of 100 gallons of water per acre	Make applications when insects appear or feeding is noticed.
Do not apply after husk split. Do not graze livestock on orchard crops or grasses in treated areas. Do not make more than 2 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

COMMERCIALLY GROWN ORNAMENTALS

Ornamental Plants

Leatherleaf Fern (Leather Holly Fern)

Insects Controlled	Rate of Application	Method of Application
Leatherleaf Fern Borer	⅔ quart per 100 gallons (1⅓ teaspoons per gallon)	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.
Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Ornamentals (Greenhouse, and Out-of-Doors)

Insects Controlled	Rate of Application	Method of Application
Aphids Cyclamen Mite Rose Chafer Whitefly	⅔ quart per 100 gallons (1⅓ teaspoons per gallon)	Make applications when insects appear or feeding is noticed.
Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides. On chrysanthemums, best results will be obtained if applied before plants flower. Do not apply to "Bonnafon Deluxe", "Fred Shoesmith", and "White Knight" chrysanthemums as injury may result. Do not use on Birch trees. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Ornamental Trees and Shrubs

Dogwood, Lilac

Insects Controlled	Rate of Application	Method of Application
Dogwood Borer Lilac Borer	⅔ to 1⅓ quarts per 100 gallons (1⅓-2⅔ teaspoons per gallon)	Apply in early June and repeat in 10 to 14 days. Drench all bark areas down to the ground level.
Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Douglas Fir (Grown for Ornamentals, Nursery Stock or Christmas trees)—Pacific Northwest Only

Insects Controlled	Rate of Application	Method of Application
Aphids Cooley Spruce Gall Adelgid Douglas Fir Needle Midge	⅔ quart per 100 gallons (1⅓ teaspoons per gallon)	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.
Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Pines (Austrian, Jack, Red, Scotch, White)

Insects Controlled	Rate of Application	Method of Application
Zimmerman Pine Moth	1 quart per 100 gallons (2 teaspoons per gallon)	Apply in mid-April and again, if necessary, in late fall. Thoroughly wet bark and main stem, especially where branches join main stem.
Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Shade Trees (except Birch), Shrubs

Insects Controlled	Rate of Application	Method of Application
Aphids	⅔ quart per 100 gallons (1⅓ teaspoons per gallon)	Make applications when insects appear or feeding is noticed.
Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Spruce (New England Area Only)

Insects Controlled	Rate of Application	Method of Application
Spruce Gall Aphid	⅔ quart per 100 gallons (1⅓ teaspoons per gallon)	Apply in late April or early May when aphids are present but before galls are formed.
Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

Taxus

Insects Controlled	Rate of Application	Method of Application
Taxus Bud Mite	⅔ quart per 100 gallons (1⅓ teaspoons per gallon)	Make 3 to 5 applications beginning in mid-May. Thoroughly spray foliage, twigs, and bark.
Black Vine Weevil	1⅓ quarts per 100 gallons (2⅔ teaspoons per gallon)	Spray thoroughly and drench the soil under the plants. Apply when the weevils first appear and repeat in 14 days.
Food utensils such as teaspoons must not be used for food purposes after use in measuring pesticides. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 4 quarts) per acre per year.		

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Dealers Should Sell in Original Packages Only.

Terms of Sale or Use: On purchase of this product buyer and user agree to the following conditions:

Warranty: FMC makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Except as so warranted the product is sold as is. Buyer and user assume all risk of use and/or handling and/or storage of this material when such use and/or handling and/or storage is contrary to label instructions.

Directions and Recommendations: Follow directions carefully. Timing and method of application, weather and crop conditions, mixture with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the seller and are assumed by the buyer at his own risk.

Use of Product: FMC s recommendations for the use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice.

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