



PM 13 279-3129 PS 15 12
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 15 1994

**John F. Wright
FMC CORP.
ACG SPECIALTY PRODUCTS
1735 MARKET STREET
PHILADELPHIA, PA 19103**

**OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES**

**Subject: Label Amendment Submission of 02/08/94 in Response to PR Notice 93-7
EPA Reg. No. 279-3129
THIODAN WSB INSECTICIDE**

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

By the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
- AND
- WITHIN one year from date of this acceptance.



Recycled/Recyclable
Printed with Soy/Canola Ink on paper that
contains at least 50% recycled fiber

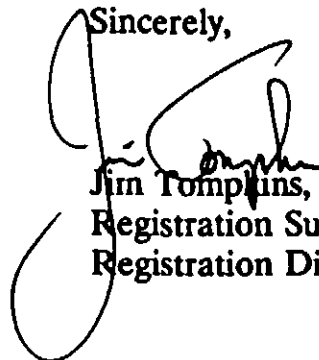
Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs (7505C)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief
Registration Support Branch
Registration Division (7505W)

Attachment

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Page 3

FMC CORP.
279-3129 02/08/94
THIODAN WSB INSECTICIDE
Original Submission

Delete the crossed-out statements on your proposed label. They are redundant statements or phrases.

Correct the typographical errors circled on your proposed label.

Thiodan® WSB

Insecticide

For Agricultural or Commercial Use Only

EPA Reg. No. 279-3129

EPA Est. 279-

Active Ingredient:	By Wt.
*Endosulfan: (Hexachlorohexahydromethano-2,4,3-benzodioxathiepin 3-oxide)	49.6%
Inert Ingredients:	50.4%
	100.0%

*Thiodan

KEEP OUT OF REACH OF CHILDREN



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.)

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 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.

For Emergency Assistance Call (800) 331-3148.

FMC Corporation
Agricultural Chemical Group
Philadelphia PA 19103

4/93

RECEIVED
with COMMENTS
In EPA Letter Dated

APR 15 1994

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
or intended, for the pesticide
registered under EPA Reg. No.
279-3129

PRECAUTIONARY STATEMENTS

Hazards to Humans (& Domestic Animals)

Danger

Fatal if swallowed or inhaled. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Do not breathe vapor.

Personal Protective Equipment

Applicators and other handlers (other than mixers and loaders) must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks, chemical-resistant headgear for overhead exposure, and 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).

Mixers and Loaders must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks, protective eyewear, chemical-resistant headgear, chemical-resistant apron when mixing or loading, and 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).

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.

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.

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. 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.

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.

BEST AVAILABLE COPY

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, waterproof gloves, shoes plus socks, and chemical-resistant headgear for overhead exposure.

STORAGE AND DISPOSAL

Pesticide Storage

Do not store in or around the home.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat.

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

To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal

Pesticide wastes are acutely toxic. 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 of the nearest EPA Regional Office for guidance.

Container Disposal

When all water soluble bags are used, the outer package should be clean and may be disposed of in a sanitary landfill, by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. If the outer container contacts formulated product in any way, it must be triple rinsed with clean water. Add rinsate to the spray tank and dispose of the outer package as described above.

GENERAL INSTRUCTIONS

Not for use or storage in or around the home.

The product, a wettable powder formulation of the insecticide endosulfan, is individually packaged in one-pound units in a translucent water soluble bag contained within an outer package. Do not open the water soluble bags. Do not allow the inner bag to become wet before adding to spray or nurse tank. Do not handle the inner bag with wet hands or wet gloves. Rough handling may cause breakage. Do not store at temperatures below 32°F (0°C). Allow to warm above 50°F (10°C) before normal use. Cooler water temperatures increase the time needed for the inner bag to dissolve completely.

Thiodan WSB insecticide is intended for dilution with water for spray application. Do not use strainers finer than 50 mesh size. Determine the number of water soluble bag(s) to make up necessary spray suspension. Use a minimum spray volume of 5 gallons of water per acre. Fill the spray or nurse tank 1/2 full with water. Open the outer wrapper of this product and immediately dump required contents into spray tank. Allow the water soluble bag(s) to dissolve completely. Start hydraulic or mechanical agitation. Air agitation is not recommended. Mix thoroughly to fully disperse and suspend the wettable powder. Fill the spray tank with the required amount of water. Maintain agitation during storage in nurse or supply tank or application.

Apply Thiodan WSB when insects appear or feeding is noticed. Repeat the application as necessary to maintain control. Thiodan WSB may be applied by both ground and aerial equipment. Use sufficient water to obtain full coverage.

Mix as needed; do not store diluted material.

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. 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 5 gallons 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. When applying 4 bags or more of Thiodan® WSB, mix in a minimum of 20 gallons of water to ensure adequate dispersion of the product.

NOTE: Each bag contains 1.0 pound of formulated product which is equivalent to 0.5 pound active ingredient.

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 name.

Alfalfa (Grown for Forage) (21)

Insects Controlled	Rate of Application	Method of Application
Meadow Spittlebug	1 bag per 2 acres	Apply one week after eggs begin to hatch or when first small masses of froth are produced in the crowns of the plant which is usually about the time the alfalfa is 4 to 6 inches tall. Apply in a minimum of 10 gallons of water per acre by ground or 5 gallons of water per acre by air.

Do not graze or cut forage within 21 days of treatment.

Do not apply more than once per cutting.

Do not make more than 3 applications per year.

Do not exceed a maximum of 0.75 lb. active ingredient (i.e., 1½ bags) per acre per year.

Apples (21)

Insects Controlled	Rate of Application	Method of Application
Aphids (including Apple Aphid, Rosy Apple Aphid, Woolly Apple Aphid) Apple Rust Mite Green Fruitworm Tarnished Plant Bug Tentiform Leafminers White Apple Leafhopper (first generation)	1 bag per 100 gallons or a maximum of 5 bags 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 3 bags per 200 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., 6 bags) per acre per year.

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

Insects Controlled	Rate of Application	Method of Application
Peachtree Borer Lesser Peachtree Borer	3 bags per 200 gallons; West Coast— 2 to 3 bags per 200 gallons; Southeastern States— 3 to 5 bags per 100 gallons.	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.

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., 6 bags) per acre per year.

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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	1 bag per 100 gallons or a maximum of 4 to 5 bags per acre; West Coast—do not use more than 6 bags per acre.	Make applications when insects appear or feeding is noticed.
Do not feed cull fruits to animals nor 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., 6 bags) per acre per year.		

Artichokes (7)

Insects Controlled	Rate of Application	Method of Application
Aphids (including Artichoke Aphid, Green Peach Aphid) Artichoke Plume Moth Whitefly	2 bags per acre	Make applications when insects appear or feeding is noticed. Apply in a minimum of 20 gallons of water per acre by ground and in a minimum of 10 gallons of water per acre by air.
Do not make more than 2 applications per year. Do not exceed a maximum of 2.0 lbs. active ingredient (i.e., 4 bags) per acre per year.		

Barley, Oats, Rye, Wheat

Insects Controlled	Rate of Application	Method of Application
Army Cutworm Cereal Leaf Beetle (Illinois, Indiana, Michigan and Ohio only)	1 bag per acre	Apply when small larvae are readily found in the field. For aerial application, use a minimum of 5 gallons of water per acre.
Aphids	2 to 3 bags per 2 acres	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., 2 bags) per acre per year.		

Beans, Succulent and Dry (except Lima Beans) (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	1 to 2 bags 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 1/4 inch long.
Aphids Armyworms Western Bean Cutworm Whitefly	2 bags 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., 6 bags) per acre per year.		

Blueberries

Insects Controlled	Rate of Application	Method of Application
Blueberry Bud Mite	3 bags per 300 gallons	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., 6 bags) per acre per year.		
Broccoli (including Chinese Broccoli) (7), Brussel Sprouts (14), Cabbage (including Chinese [Napa] Cabbage) (7), Cauliflower (14)		
Insects Controlled	Rate of Application	Method of Application
Cabbage Aphid Cabbage Looper Cross-striped Cabbage-worm Diamondback Moth larvae Flea Beetles Harlequin Bug Imported Cabbageworm Leafhoppers Stink Bugs Armyworms Cutworms Whitefly	2 bags per acre	Make applications when insects appear or feeding is noticed.
Do not make more than 3 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) per acre per year.		

Carrots (7)

Insects Controlled	Rate of Application	Method of Application
Green Peach Aphid Leafhoppers	1 to 2 bags per acre	Make applications when insects appear or feeding is noticed.
Armyworms Flea Beetles Whitefly	2 bags 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., 2 bags) per acre per year.		

Celery (4)

Insects Controlled	Rate of Application	Method of Application
Green Peach Aphid Cabbage Looper Leafhoppers	1 to 2 bags per acre	Make applications when insects appear or feeding is noticed.
Armyworms Flea Beetles Whitefly	2 bags per acre	
Do not make more than one application per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 2 bags) per acre per year.		

Celery (7)

Insects Controlled	Rate of Application	Method of Application
Green Peach Aphid	1 bag 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., 2 bags) per acre per year.		

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Cherries (21)

Insects Controlled	Rate of Application	Method of Application
Peachtree Borer Lesser Peachtree Borer	3 bags per 200 gallons; <i>West Coast</i> : 2 to 3 bags per 200 gallons	Thoroughly wet all bark from ground to scaffold limbs.
Black Cherry Aphid Green Fruitworm Plum Rust (Nursery) Mite	1 bag per 100 gallons or 4 to 5 bags per acre	Make applications when insects appear or feeding is noticed.
<i>Pacific Northwest only</i> : Eyespotted Bud Moth Fruit Tree Leafroller	5 bags per acre	For Bud Moth control apply at "popcorn" stage. For Leafroller control, apply during pre-pink stage of growth.
<i>Michigan only</i> : Mineola Moth	2 bags per 100 gal-	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 ingredients (i.e., 6 bags) per acre per year.		

Cherry, Peach, Plum Nursery Stock Dip

Insects Controlled	Rate of Application	Method of Application
Peachtree Borer	4 bags per 40 gallons	Mix thoroughly. Immerse trees so that the roots and crowns are covered well above the grafting bud scar.
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	1 bag per 200 gallons or a maximum of 5 bags 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., 6 bags) 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	3 to 4 bags per 2 acres	Make applications when insects appear or feeding is noticed.
Whitefly	2 bags per acre	
Do not make more than one application per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 2 bags) per acre per year.		

Cotton

Insects Controlled	Rate of Application	Method of Application
Aphids	2 to 3 bags per 2 acres	Make applications when insects appear or feeding is noticed. For control of aphids, thorough coverage is important.
Boll Weevil	1 to 3 bags per acre	
Bollworm Cabbage Looper Cotton Leafperforator Cotton Leafworm Flea-hoppers Lygus Bugs Stink Bugs Tobacco Budworm	2 to 3 bags per acre	
Thrips	3 bags 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 meat or dairy animals in treated fields. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) 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	1 to 2 bags 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	2 bags per acre	
Do not make more than 6 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) 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	1 to 2 bags per acre	Make applications when insects appear or feeding is noticed
Whitefly	2 bags per acre	
Do not make more than 2 applications per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 2 bags) per acre per year.		

Filberts (1)

Insects Controlled	Rate of Application	Method of Application
Filbert Aphid Filbert Bud Mite Filbert Leafroller	1 bag per 100 gallons or 3 to 4 bags per acre	Make applications when insects appear or feeding is noticed.
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., 6 bags) per acre per year.		

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Grapes (7)

Insects Controlled	Rate of Application	Method of Application
Grape Leafhopper Grape Phylloxera (leaf form) Rose Chafer	1 bag per 100 gallons or 2 to 3 bags per acre	Make applications when insects appear or feeding is noticed.
Do not use on Baca No. 1, Baca Noir, Seibel 7053 (Chancellor), Seibel 8375 (Colobel), Seibel 13053 (Cascade) or Concord varieties as severe injury is likely to occur. Do not make more than 3 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) per acre per year.		

Kale (21)

Insects Controlled	Rate of Application	Method of Application
Cabbage Flea Beetle Harlequin Bug Imported Cabbageworm	3 bags per 2 acres	Make applications when insects appear or feeding is noticed.
Do not make more than one application per year. Do not exceed a maximum of 0.75 lb. active ingredient (i.e., 1½ bags) 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 Armyworms Whitefly	2 bags per acre	Make applications when insects appear or feeding is noticed.
On Head Lettuce: Do not exceed 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., 6 bags) 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 Whitefly	3 to 4 bags per 2 acres	Make application when insects appear or feeding is noticed.
Do not make more than one application per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 2 bags) per acre per year.		

Pears (7)

Insects Controlled	Rate of Application	Method of Application
Green Fruitworm Tarnished Plant Bug	1 bag per 100 gallons or 4 to 5 bags per acre	Make applications at white bud or petal fall when insects appear or feeding is noticed.
Pear Psylla	5 bags per acre	Apply in a minimum of 20 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 Conspire Stink Bug (foliar treatment)	1 bag per 100 gallons or 4 to 5 bags per acre	Make applications when insects appear or feeding is noticed. Stink Bugs must be wet by spray to obtain control.
Conspire Stink Bug (soil treatment)	1 bag per 100 gallons; 200 to 400 gallons per acre	Apply to orchard floor and around trees prior to bloom.
Pear Leaf Blister Mite	1 to 2 bags per 200 gallons	Apply 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., 6 bags) 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 (Seed Crop Only) (1)

Insects Controlled	Rate of Application	Method of Application
Pea Aphid Pea Weevil	1 to 2 bags 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 or threshings to livestock or allow livestock to graze in treated fields. Do not make more than 2 applications per year. Do not exceed a maximum of 1.5 lbs. active ingredient (i.e., 3 bags) per acre per year.		

Pecans

Insects Controlled	Rate of Application	Method of Application
Black Pecan Aphid Pecan Nut Casebearer Spittlebug	3 bags per 200 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	2 to 3 bags per 200 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., 6 bags) per acre per year.		

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Peppers (1)

Insects Controlled	Rate of Application	Method of Application
Flea Beetles Green Peach Aphid Homworms Pepper Maggot	1 bag 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., 2 bags) per acre per year.		

Peppers (4)

Insects Controlled	Rate of Application	Method of Application
Armyworms Flea Beetles Green Peach Aphid Homworms Leafhoppers Pepper Maggot	1 to 2 bags per acre	Make applications when insects appear or feeding is noticed.
Whitefly	2 bags per acre	
Do not make more than 2 applications per year. Do not exceed a maximum of 2.0 lbs. active ingredient (i.e., 4 bags) per acre per year.		

Pineapple (For Fresh Market Only) (7)

Insects Controlled	Rate of Application	Method of Application
Pineapple Fruit Mite	3 to 4 bags 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 treated 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., 6 bags) per acre per year.		

Plums (7), Prunes (7)

Insects Controlled	Rate of Application	Method of Application
Fruitree Leafroller (Pacific Northwest Only)	1 bag per 100 gallons or 4 to 5 bags 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	1 bag per 100 gallons or 4 to 5 bags per acre	Make applications when insects appear or feeding is noticed.
Lesser Peachtree Borer	3 bags per 200 gallons or 4 to 5 bags per acre	Apply spray to thoroughly wet the trunk and main branches.
Peachtree Borer	3 bags per 200 gallons or 4 to 5 pounds per acre; West Coast—2 to 3 bags per 200 gallons or 4 to 5 bags per acre	Spray thoroughly to cover all bark areas from ground to scaffold limbs.
Do not allow livestock to graze 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., 6 bags) per acre per year.		

Potatoes (1)

Insects Controlled	Rate of Application	Method of Application
Aphids Armyworms Colorado Potato Beetle Green Stink Bug Leaffooted Bug Plant Bugs Potato Flea Beetles Potato Leafhopper Potato Tuberworm Threelined Potato Beetle	1 to 2 bags per acre	Make applications when insects appear or feeding is noticed.
European Corn Borer Potato Psyllid	3 to 4 bags per 2 acres	
False Chinch Bug Whitefly	2 bags per acre	
Do not make more than 6 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) per acre per year.		

Safflower

Insects Controlled	Rate of Application	Method of Application
Green Peach Aphid Whitefly	2 bags per acre	Make applications when insects appear or feeding is noticed.
Do not apply after flower heads open. Do not make more than 2 applications per year. Do not exceed a maximum of 2.0 lbs. active ingredient (i.e., 4 bags) per acre per year.		

Spinach (21)

Insects Controlled	Rate of Application	Method of Application
Armyworms Crown Mite Flea Beetles Green Peach Aphid Leafhoppers	3 to 4 bags per 2 acres	Make applications when insects appear or feeding is noticed.
Whitefly	2 bags per acre	
Do not make more than one application per year. Do not exceed a maximum of 1.0 lb. active ingredient (i.e., 2 bags) per acre per year.		

Strawberries (4)

Insects Controlled	Rate of Application	Method of Application
Meadow Spittlebug Strawberry Aphid Tarnished Plant Bug Whitefly	2 bags 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	4 bags per acre in 400 gallons	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 three applications per year. Do not exceed a maximum of 3.0 lb. active ingredient (i.e., 6 bags) per acre per year.		

Strawberries—Northwest Use Only (4)

Insects Controlled	Rate of Application	Method of Application
Garden Symphylian (aids in reducing damage)	2 bags 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.
Drain and allow plants to dry before setting them out in the field.		

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Sugar Beets (30)

Insects Controlled	Rate of Application	Method of Application
Green Peach Aphid Meadow Spittlebug	1 to 2 bags per acre	Make application(s) when insects appear or feeding is noticed. Make one or two applications per year as needed for control.
Sugar Beet Webworm	2 bags per acre	
Whitefly		
Do not feed treated tops to livestock. Do not make more than 2 applications per year. Do not exceed a maximum of 2.0 lbs. active ingredient (i.e., 4 bags) per acre per year.		

Sunflowers (1)

Insects Controlled	Rate of Application	Method of Application
Sunflower Moth	2 bags per acre	Make applications when insects appear or feeding is noticed. Make the first application at the onset of bloom. Allow 7 days between repeat applications.
Do not feed treated forage to livestock. Do not make more than 3 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) per acre per year.		

Sweet Corn (Fresh Vegetable Use Only) (1)

Insects Controlled	Rate of Application	Method of Application
Corn Leaf Aphid Whitefly	2 bags per acre	Make applications when insects appear or feeding is noticed.
Corn Earworm	3 bags 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., 6 bags) per acre per year.		

Sweet Potatoes (1)

Insects Controlled	Rate of Application	Method of Application
Sweet Potato Flea Beetle Sweet Potato Weevil	1 bag 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 4 bags 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	2 bags per acre	Make applications when insects appear or feeding is noticed.
Banded Cucumber Beetle larvae (aid in control) (South Central States and Puerto Rico Only)	2 to 4 bags per acre broadcast or 2 to 4 bags per 3 acres 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., 6 bags) 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: 1 bag per 100 gal- lons	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: 1 bag per 200 gal- lons	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: 1 to 2 bags per acre	Make applications when insect activity or feeding is noticed.
Stink Bugs	Field: 2 to 3 bags per 100 gal- lons	
Do not make more than 6 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) per acre per year.		

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Tomatoes (Field and Greenhouse) (2)

Insects Controlled	Rate of Application	Method of Application
Aphids Blister Beetles Colorado Potato Beetle Flea Beetles Tomato Hornworm Webworm (<i>California Only</i>)	1 to 2 bags per acre	Make applications when insects appear or feeding is noticed.
Cabbage Looper Stink Bugs Tomato Fruitworm Tomato Russet Mite Whitefly Yellowstriped Armyworm	2 bags per acre	
Whitefly	1 bag per 100 to 200 gallons of water	
Do not make more than 6 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) per acre per year.		

Walnuts

Insects Controlled	Rate of Application	Method of Application
Walnut Aphid	3 to 4 bags 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., 6 bags) 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	1 bag per 100 gallons	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.
Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) per acre per year.		

Ornamentals (Greenhouse, and Out-of-Doors)

Insects Controlled	Rate of Application	Method of Application
Aphids Cyclamen Mite Rose Chafer Whitefly	1 bag per 100 gallons	Make applications when insects appear or feeding is noticed.
On chrysanthemums, best results will be obtained if applied before plants flower. Do not apply to "Bonnafon Deluxe", "Fred Shoemith", 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., 6 bags) per acre per year.		

Ornamental Trees and Shrubs

Dogwood, Lilac

Insects Controlled	Rate of Application	Method of Application
Dogwood Borer Lilac Borer	1 to 2 bags per 100 gallons	Apply in early June and repeat in 10 to 14 days. Drench all bark areas down to the ground level.
Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) 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	1 bag per 100 gallons	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.
Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) per acre per year.		

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

Insects Controlled	Rate of Application	Method of Application
Zimmerman Pine Moth	3 bags per 200 gallons	Apply in mid-April and again, if necessary, in late fall. Thoroughly wet bark and main stem, especially where branches join main stem.
Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) per acre per year.		

Shade Trees (except Birch), Shrubs

Insects Controlled	Rate of Application	Method of Application
Aphids	1 bag per 100 gallons	Make applications when insects appear or feeding is noticed.
Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) per acre per year.		

Spruce (New England Area Only)

Insects Controlled	Rate of Application	Method of Application
Spruce Gall Aphid	1 bag per 100 gallons	Apply in late April or early May when aphids are present but before galls are formed.
Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) per acre per year.		

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Taxus

Insects Controlled	Rate of Application	Method of Application
Taxus Bud Mite	1 bag per 100 gallons	Make 3 to 5 applications beginning in mid-May. Thoroughly spray foliage, twigs, and bark.
Black Vine Weevil	2 bags per 100 gallons	Spray thoroughly and drench soil under the plants. Apply when the weevils first appear and repeat in 14 days.
Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 bags) per acre per year.		

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.

Damages: Buyer's or user's exclusive remedy for damages for breach of warranty or negligence shall be limited to direct damages not exceeding the purchase price paid and shall not include incidental or consequential damages.

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