

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

NOV 13 1997

Dear Ms. Hilton:

Subject: Amendment- Delete unsupported crops including
Artichokes, Peas (seed crop), Safflower,
Sugar Beets, and Sunflowers
Thiodan WSB Insecticide (California label)
EPA Registration Number 279-3129
Your submission dated October 28, 1997

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 before you release the product for shipment bearing the amended labeling:
 - a) At either the top of the label or directly under the product name add "Supplemental label for use in California" in large bold type.
 - b) The crops uses not supported by data must be deleted from the label. Delete directions for Artichokes, Peas (seed crop), Safflower, Sugar Beets, and Sunflowers.
 - c) Replace the current HAZARDS TO HUMANS AND DOMESTIC ANIMALS text with the following:

Fatal if swallowed or inhaled. Harmful if absorbed through skin. Caused moderate eye irritation. Do not breathe dust or spray mist. Avoid contact with skin, eyes, or clothing.

Do not contaminate food or feed. Keep out of reach of domestic animals.

- d) In the Personal Protective Equipment (PPE) listing for applicators replace "long sleeved shirt and long pants" with coveralls over short-sleeved shirt and short pants . Also, add "protective eyewear," after "shoes plus socks,". In the Mixers and Loaders PPE listing, replace "long-sleeved shirt and long pants" with "Coveralls over short-sleeved shirt and short pants". Also, revise "when mixing or loading" to "when cleaning equipment, mixing, or loading".
- e) The Agency notes that you have not included an **Engineering Control Statement** section. Is this intentional? If not, then add that heading and its associated text after the PPE section.
- f) Add a third item to the **USER SAFETY RECOMMENDATIONS** as follows:
- 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.
- g) In the **Environmental Hazards**, after "...are important resources." add "Do not contaminate water by cleaning of equipment or disposal of equipment washwaters."
- h) Replace "See supplemental label for directions for use in California", with "This product is intended for use in California under this supplemental label only. Be sure to read and follow the required procedures for reducing the risk of contamination of aquatic ecosystems in California". Then, relocate the California Supplemental Label section (leave off that heading and just begin the section with the heading "**PROCEDURES FOR REDUCING RISK OF CONTAMINATION OF AQUATIC ECOSYSTEMS**") from the back of the label to appear instead at the end of the **GENERAL INSTRUCTIONS** section.

You have indicated that FMC intends to split the California label out as a separate product, as AgrEvo has done. Once that separate California product has been registered, the referral statement on EPA Reg. No. 279-3129 (the all states except California Thiodan WSB) should be modified to state "This product is not intended for use in California. For California, use Thiodan WSB Insecticide For Use in California." [or whatever name you choose for your new California-only WSB product].

- i) In the first paragraph under the heading **GENERAL INSTRUCTIONS**

capitalize the "D" at the beginning of the sentence "Do not store at temperatures below...".

- j) For Apples, in the **Rate of Application** revise "maximum of 5 pounds per acre" to "maximum of 5 bags per acre".
- k) For Apricots, Nectarines, and Peaches(30), in the **Rate of Application**, delete "West Coast- do not use more than 6 bags per acre". That limitation applies nationwide and already appears in the Notes for this crop.
- l) For Broccoli, etc., revise the **Rate of Application** for the pest listing Cabbage Aphid through Stink Bugs to read "3 to 4 bags per 2 acres".
- m) Correct the crop name "Brussels Spouts".
- n) For Carrots, in the **Method of Application** revise "Make applications" to "Make application", since only one application is permitted per year.
- o) For Celery(4), in the **Method of Application** revise "Make applications" to "Make application", since only one application is permitted per year.
- p) For Cherries, delete the directions for control of Mineola Moth in Michigan from this California use only label.
- q) For Cherry, Peach, Plum Nursery Stock Dip, the full set of personal protective clothing is also required for this use. In the Notes, replace "Wear rubber gloves during the dipping operation." with "Full Personal Protective Equipment (PPE) requirements for applicators also apply to this dipping operation."
- r) The Agency questions whether the **Rate of Application** entry for Citrus (Non-Bearing Trees and Nursery Stock) is correct. AgrEvo has recently verified that the correct rate for both Federal and California endosulfan 3EC for this same use is 2/3 quarts (1/2 lb. a.i.) per 100 gallons of water. Your WSB label calls for 1/2 bag of product per 200 gallons of water (equivalent to 1/8 lb. a.i per 100 gallons). Should this instead be 1 bag of product in 100 gallons (1/2 lb. a.i.) to match the rate appearing on the 3EC labels? Does your residue data (for both Federal and California registration) support an equal amount of active ingredient regardless of the formulation used on Citrus?
- s) For Collards, revise the **Rate of Application** to read "3 bags per 2 acres". In the **Method of Application** revise "Make

applications" to "Make application", since only one application is permitted per year. In the second Note, revise "(i.e., 1 1/2 pounds)" to read "(i.e., 1 1/2 bags)".

- t) For Eggplant, revise the first Note to read "Do not make more than one application per year.". In the second Note, revise "(i.e., 1 pounds)" to "(i.e., 1 bag)". In the **Method of Application** revise "Make applications" to "Make application", since only one application is permitted per year.
- u) For Filberts, in the third Note, revise "(i.e., 6 pounds)" to "(i.e., 6 bags)".
- v) For Grapes, in the first Note revise "severe injury" to read "severe plant injury". In the third Note, revise "(i.e., 6 pounds)" to "(i.e., 6 bags)".
- w) For Kale, revise the **Rate of Application** to read "3 bags per 2 acres". In the **Method of Application** revise "Make applications" to "Make application", since only one application is permitted per year.
- x) For Lettuce, for Cabbage Looper through Imported Cabbageworm, revise the **Rate of Application** to read "3 to 4 bags per 2 acres".
- y) For Mustard Greens, revise the **Rate of Application** to read "3 bags per 2 acres".
- z) For Pears, for Pear Leaf Blister Mite, revise the **Rate of Application** to read 1 to 2 bags per 200 gallons". Also, revise the **Method of Application** entry for this same pest to read "Apply to trees as a post harvest or dormant treatment.".
- aa) For Pecans, revise the **Rate of Application** to read "3 bags per 200 gallons" rather than "1 1/2 bags per 100 acres".
- bb) For Plums and Prunes, combine Peachtree Borers and Lesser Peachtree Borers as a single block entry with a single revised **Rate of Application** of "2 to 3 bags per 200 gallons or 4 to 5 bags per acre" [this is the "West Coast" rate] and a single **Method of Application** entry reading "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.".
- cc) For Potatoes, revise the **Rate of Application** for European Corn Borer and Potato Psyllid to read "3 to 4 bags per 2 acres".

- dd) For Spinach, revise the Rate of Application to read "3 bags per 2 acres". In the Method of Application revise "Make applications" to "Make application", since only one application is permitted per year.
- ee) For Strawberries, based on your Thiodan Cottonseed Oil product (the old linear version California label), it appears that the Rate of Application entry for this WSB product should be expanded to the following: "1 bag per 100 gallons or 2 bags per acre (Apply in a minimum of 150 gallons of water per acre.)". Please check with your agricultural experts and revise the label accordingly. If such a revision is not appropriate, please promptly notify the Agency in writing citing the reason(s). Also, for Cyclamen Mites revise the Rate of Application to read "4 bags per acre in 400 gallons of water". In the Notes revise "three (3) applications" to "3 applications" for consistency with the other Notes on this label.
- ff) For Strawberries - Northwest Use Only, the full set of personal protective clothing is also required for this use. In the Notes, replace "Wear rubber gloves during the dipping operation." with "Full Personal Protective Equipment (PPE) requirements for applicators also apply to this dipping operation."
- gg) For Sweet Potatoes, in the Rate of Application revise "1 bags" to "1 bag".
- hh) For Tomatoes, in the Insects Controlled column, delete "(California only)" after "Webworm". For Cabbage Looper and Stink Bugs, revise the Rate of Application to read "3 to 4 bags per 2 acres". Also, for Whitefly, revise the Rate of Application to read "1 bag per 100 to 200 gallons of water per acre".
- ii) For Walnuts, should the Rate of Application entry be expanded? Based on your Thiodan Cottonseed Oil product (the old linear version California label), it appears that the Rate of Application entry for this WSB product should be expanded to "3 to 4 bags per acre (Apply in a minimum of 150 gallons of water per acre.)". However, the directions on this WSB label for other fruit and nut trees generally include a number of bags per 100 gallons entry along with the maximum amount of bags per acre. Based on this, it may be that the Rate of Application should be even further expanded to read "1 bag per 100 gallons or 3 to 4 bags per acre (Apply in a minimum of 150 gallons of water per acre.)". Please check with your agricultural experts and revise the label accordingly. If neither such revision is appropriate, please

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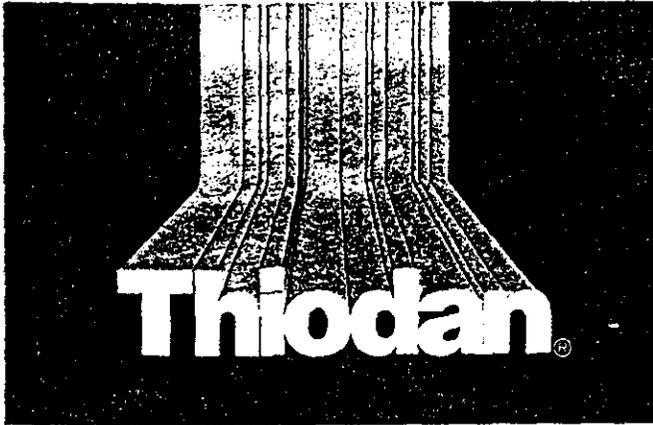
- promptly notify the Agency in writing citing the reason(s).
- jj) Delete the directions for use on Spruce(New England Area Only) from this California use only label.
- 3. Submit three (3) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

Sincerely,

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

Code 1592



WSB Insecticide

For Agricultural or Commercial Use Only

EPA Reg. No. 279-3129

EPA Est. 279-NY-1

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

DANGER-POISON
PELIGRO

See Other Panels for Additional Precautionary Information.

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

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**: Wash skin with soap and water. Get medical attention.

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

ACCEPTED
with COMMENTS
in EPA Letter Dated

NOV 13 1997

FMC

FMC Corporation
Agricultural Products Group
Philadelphia PA 19103

12/95

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

279-3129
CALIFORNIA
SUPPLEMENTAL
LABEL

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.

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.

Thiodan WSB (California version)

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.

See supplemental label for directions for use in California.

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.

Apples (30)

Insects Controlled	Rate of Application	Method of Application
Aphids (including Apple Aphid, Rosy Apple Aphid, Woolly Apple Aphid) Apple Rust Mite White Apple Leafhopper (first generation)	1 bag per 100 gallons or a maximum of 5 pounds per acre	For best control of first generation White Apple Leafhopper, apply when nymphs first appear on leaves. If necessary, prior to petal fall, use 1 1/2 pounds per 100 gallons to control Apple Aphids and Rosy Apple Aphids.

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 (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) Cattaching insects (Stink Bug type) 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 5 bags 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., 6 bags) per acre per year.

Artichokes (7)

Insects Controlled	Rate of Application	Method of Application
Aphids (including Artichoke Aphid, Green Peach Aphid)	1 1/2 to 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.
Artichoke Plume Moth 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.

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 Cucumber Beetles Flea Beetles Green Stink Bug Mexican Bean Beetle	1 to 2 bags per acre	Make applications when insects appear or feeding is noticed.
Aphids 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.

Thiodan WSB (California version)

Broccoli (7), Brussel 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 Stink Bugs	1 1/2 to 2 bags per acre	Make applications when insects appear or feeding is noticed.
Armyworms Cutworms Whitely	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.		

Carrots (7)

Insects Controlled	Rate of Application	Method of Application
Green Peach Aphid	1 to 2 bags per acre	Make applications when insects appear or feeding is noticed.
Flea Beetles Whitely	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	1 to 2 bags per acre	Make applications when insects appear or feeding is noticed.
Flea Beetles Whitely	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.		

Cherries (21)

Insects Controlled	Rate of Application	Method of Application
Black Cherry Aphid 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.
Pacific Northwest only: Eyespotted Bud Moth Fruit Tree Leafroller		For Bud Moth control apply at "popcorn" stage. For Leafroller control, apply during "pre-pink" stage of growth.
Michigan only: Mineola Moth	2 bags 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., 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. Wear rubber gloves during the dipping operation.		

Citrus (Non-Bearing Trees and Nursery Stock)

Insects Controlled	Rate of Application	Method of Application
Citrus Aphid	1/2 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 Flea Beetles Harlequin Bug Imported Cabbageworm Whitely	1 1/2 bags per acre	Make applications 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 1/2 pounds) 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 Pickworm 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 Whitely		
Do not make more than 3 applications per year. Do not exceed a maximum of 3.0 lbs. active ingredient (i.e., 6 pounds) 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 Whitely	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 0.5 lb. active ingredient (i.e., 1 pound) per acre per year.		

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Filberts (1)

Insects Controlled	Rate of Application	Method of Application
Filbert Aphid 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 pounds) per acre per year.		

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 pounds) per acre per year.		

Kale (21)

Insects Controlled	Rate of Application	Method of Application
Cabbage Flea Beetle Harlequin Bug Imported Cabbageworm	1 1/2 bags per acre	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., 1 1/2 pounds) per acre per year.		

Lettuce (14)

Insects Controlled	Rate of Application	Method of Application
Cabbage Looper Diamondback Moth larvae Green Peach Aphid Imported Cabbageworm	1 1/2 to 2 bags per acre	Make applications when insects appear or feeding is noticed.
Whitefly	2 bags per acre	
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 pounds) per acre per year.		

Mustard Greens (21)

Insects Controlled	Rate of Application	Method of Application
Aphids Cabbage Looper Diamondback Moth larvae Flea Beetles Harlequin Bug Imported Cabbageworm Whitefly	1 1/2 bag 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 0.75 lb. active ingredient (i.e., 1 1/2 bags) per acre per year.		

Pears (7)

Insects Controlled	Rate of Application	Method of Application
Pear Psylla	5 bags per acre	Apply in a minimum of 10 gallons of water for aenal 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 Conspere 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.
Conspere 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	1/2 to 1 bag per 100 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 1 1/2 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	1 1/2 bags per 100 acres	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.
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.		

Peppers (1)

Insects Controlled	Rate of Application	Method of Application
Flea Beetles Green Peach Aphid Hornworms 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
Flea Beetles Green Peach Aphid Hornworms 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.		

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	1½ bags per 100 gallons or 4 to 5 bags per acre	Apply spray to thoroughly wet the trunk and main branches.
Peachtree Borer	1½ bags per 100 gallons or 4 to 5 bags per acre; West Coast—1 to 1½ bags per 100 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 Leaf-footed 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	1½ to 2 bags per acre	
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
Crown Mite Flea Beetles Green Peach Aphid Whitefly	1½ bags per acre	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.		

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 (3) 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

Insects Controlled	Rate of Application	Method of Application
Garden Symphylan (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.
Wear rubber gloves during the dipping operation. Drain and allow plants to dry before setting them out in the field.		

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	1½ to 2 bags per acre	
Whitefly	2 bags per acre	
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 Potatoes (1)

Insects Controlled	Rate of Application	Method of Application
Sweet Potato Flea Beetle Sweet Potato Weevil	1 bags 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.
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 1.5 lbs. active ingredient (i.e., 3 bags) per acre per year.		

Thiodan WSB (California version)

Tomatoes (Field and Greenhouse) (2)

Insects Controlled	Rate of Application	Method of Application
Aphids Blister Beetles Colorado Potato Beetle Flea Beetles Tomato Hornworm Webworm (California Only)	1 to 2 bags per acre	Make applications when insects appear or feeding is noticed.
Cabbage Looper Stink Bugs	1½ to 2 bags per acre	
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
Nut 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.		

COMMERCIALY GROWN ORNAMENTALS

Ornamental Plants

Ornamentals (Greenhouse, and Out-of-Doors)

Insects Controlled	Rate of Application	Method of Application
Aphids Cyclamen Mite Rose Chaler 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 "Bonnaton 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

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.		

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.		

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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CA Revision 8/94 (1192-11/794-A)

3673.1

CALIFORNIA SUPPLEMENTAL LABEL

PROCEDURES FOR REDUCING RISK OF CONTAMINATION OF AQUATIC ECOSYSTEMS

FOR CROP USES LISTED ON THE PRODUCT LABEL

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

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

DIRECTIONS FOR USE (General)

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

- Do not apply this product to fields during irrigation or irrigate for 72 hours following an application.
- Do not apply this product through any type of irrigation system.
- Do not apply more than 1.5 lbs. a.i./acre/application or more than 3.0 lbs. a.i./acre/season. (Orchard crops and strawberries exempted on rate/acre/application restriction).
- Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark.
- Do not apply by ground or air within a distance of 300 feet to natural bodies of water including lakes, ponds, streams and estuaries.

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FOR DRIFT CONTROL

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

READ CONTAINER LABEL FOR COMPLETE USE INSTRUCTIONS

ACCEPTABLE SITES FOR ENDOSULFAN APPLICATION

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

UNACCEPTABLE SITES FOR ENDOSULFAN APPLICATION

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

ALL APPLICABLE DIRECTIONS, RESTRICTIONS AND PRECAUTIONS ON THE EPA REGISTERED LABEL ARE TO BE FOLLOWED.

THIS LABELING MUST BE IN THE POSSESSION OF THE USER AT THE TIME OF PESTICIDE APPLICATION.