

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

NOV 21 1997

Dear Ms. Hilton:

Subject: Amendment- Delete crops: Artichokes, Celery,  
Cucumbers, Eggplant, Lettuce, Melons, Peppers,  
Potatoes, Pumpkins, Summer and Winter Squash,  
Sweet Corn, and field Tomatoes  
Thiodan Pyrenone C.O. EC Insecticide  
EPA Registration Number 279-2735  
Your submission dated August 16, 1994 and  
Federal Register Notice dated February 13, 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) Regarding the Small Grains use retention, the Agency understands that you, together with other members of the Endosulfan Task Force, are now actively engaged in satisfying the overdue data requirement and that you will keep the Agency apprised of progress on the study involving winter wheat. This letter is not to be construed as a final determination by the Agency regarding the acceptability of this use pattern.
  - b) In the Ingredients Statement, in the footnote \*\*\*, change "Solvents" to "Solvent".

- c) In the **Statement of Practical Treatment**, add "Get medical attention." to the end of the **If inhaled** advice, and revise the **If on skin** advice to read "Remove contaminated clothing and wash skin with soap and water. Get medical attention."
- d) Replace the current **Note to Physician** text with the following:

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

- e) Replace the current **HAZARDS TO HUMANS AND DOMESTIC ANIMALS** text with the following:

Fatal if swallowed. May be fatal if inhaled or absorbed through skin. Causes moderate eye irritation. Do not breathe vapor or spray mist. Do not get in eyes, on skin, or on clothing. Do not contaminate food or feed. Keep out of reach of domestic animals.

- f) In the **Personal Protective Equipment (PPE)** listing, revise "Protective eyewear when mixing or loading," to read just "Protective eyewear;" and for consistency with the rest of the entries, capitalize the "C" of "chemical-resistant apron", and the "R" of "respirator".
- g) Add the heading **Engineering Control Statement** over the paragraph beginning "When handlers use closed systems".
- h) In the **Environmental Hazards**, after "...are important resources." add "Do not contaminate water by cleaning of equipment or disposal of equipment washwaters."
- i) Under the heading **DIRECTIONS FOR USE**, the sentence "It is a violation of Federal law to use this product in a manner inconsistent with its labeling." should stand as its own paragraph.

- j) Replace the paragraph beginning "Apply the listed amount" with the following:

**GENERAL INSTRUCTIONS**

Not For Use or Storage in or Around the Home.  
Do not use in undiluted form.

[You may choose to include here "This product is not registered for use in California."]

Apply the listed amount per acre when insects first appear and repeat as required, unless otherwise noted, to maintain 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 25 gallons of water per acre. Observe use limitations. If insect control is required beyond the following use patterns, supplement the control program with other suitable pesticides.

- k) From the paragraph beginning "When applying this material by aircraft", delete "By ground, use a minimum of 25 gallons of water." and delete "Observe days interval between last application and harvest indicated by number in () following the crop.". After this paragraph, add a new paragraph as follows:

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."

- l) Relocate the directions for Brussels Sprouts, Cabbage, and Cauliflower to appear before the directions for Carrots. Correct the crop name to read "Brussels Sprouts".
- m) For Carrots, in the Method of Application revise "Make applications" to "Make application", since only one application is permitted per year.
- n) For Collards, in the Method of Application revise "Make applications" to "Make application", since only one application is permitted per year.
- o) For Spinach, in the Method of Application revise "Make applications" to "Make application", since only one application is permitted per year.

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p) For Tomatoes (Greenhouse), for Whitefly, revise the Rate of Application entry to read "1 quart per 100 or 200 gallons of water per acre".

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)1

Code 31111

Net Contents

# Thiodan® Pyrenone® C.O. EC

## Insecticide

For Agricultural or Commercial Use Only

EPA Reg. No. 279-2735	EPA Est., 279-
Active Ingredients:	By Wt.
*Endosulfan (Hexachlorohexahydromethano-2,4,3-benzodioxathiepin oxide).....	23.15%
Pyrethrins .....	0.18%
**Technical piperonyl butoxide .....	1.80%
***Inert Ingredients: .....	74.87%
	100.0%

Thiodan  
 \*\*Consists of 1.44% (butylcarbityl) (6-propylpiperonyl) ether and 0.36% of related compounds.  
 \*\*\*Contains Xylene Range Aromatic Solvents.  
 Contains 2 pounds endosulfan, 0.25 ounce pyrethrins, and 2.5 ounces piperonyl butoxide (Butacide®) per gallon.

### PRECAUTIONARY STATEMENTS Hazards to Humans (and Domestic Animals)

**Danger**  
 Fatal if swallowed. May be fatal if inhaled or absorbed through skin. Causes moderate eye irritation. Do not breathe vapor or spray mist. Do not get in eyes, on skin, or on clothing.

#### Personal Protective Equipment:

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

**Applicators and other handlers must wear:** Coveralls over short-sleeved shirt and short pants; Chemical-resistant gloves, such as Barrier Laminate, or Butyl Rubber, or Nitrile Rubber or Viton; Chemical-resistant footwear plus socks; Protective eyewear when mixing or loading; Chemical-resistant headgear for overhead exposure; chemical-resistant apron when cleaning equipment, mixing, or loading; and a respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G).

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.

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

**User Safety Recommendations:**  
 Users should:

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

KEEP OUT OF REACH OF CHILDREN



**DANGER-POISON**

**PELIGRO**

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 immediately. Drink one or two glasses of water or one ounce of syrup of ipecac, if available, and induce vomiting by touching the back of the throat with finger. Repeat until vomit fluid is clear. Do not induce vomiting or give anything by mouth to an unconscious person.  
**If inhaled:** Remove victim to fresh air. Apply respiration if indicated.  
**If on skin:** Wash contaminated skin with soap and water.  
**If in eyes:** Flush eyes with plenty of water. Call a physician if irritation persists.  
**Note to Physician:** Endosulfan is a central nervous system stimulant. Treat symptomatically. There is no specific antidote.

For Emergency Assistance Call (800) 331-3148.  
 See Other Panels for Additional Precautionary Information.

### 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.

### Physical/Chemical Hazards

Do not use or store near heat or open flame.

### DIRECTIONS FOR USE

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

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



FMC Corporation  
 Agricultural Chemical Group  
 Philadelphia PA 19103

ACCEPTED  
 with COMMENTS  
 in EPA Letter Dated

NOV 21 1997

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 279-2735

## AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls over short-sleeved shirt and short pants; Chemical-resistant gloves, such as Barrier Laminate, or Butyl Rubber, or Nitrile Rubber or Viton; Chemical-resistant footwear plus socks; and Chemical-resistant headgear for overhead exposure.

## STORAGE AND DISPOSAL

### Pesticide Storage

Do not store in or around the home.

Do not store below 20°F, (-7°C).

Do not use or store near heat, open flame or hot surfaces.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call FMC: (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 hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

### Container Disposal

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

Apply the listed amount per acre when insects first appear and repeat as required to maintain effective control. Coverage of upper and lower leaf surfaces is essential for good control. Observe use limitations. Do not use in undiluted form. If insect control is required beyond the following use patterns, supplement the control program with other suitable pesticides.

When applying this material by aircraft, mix the recommended amount with sufficient water to provide a minimum of 1 gallon finished spray per acre. By ground, use a minimum of 25 gallons of water per acre. Where more than 2 quarts of this material are recommended, mix with sufficient water to provide a minimum of finished spray equal to twice the amount of Thiodan Pyrenone C.O. EC used. Observe days interval between last application and harvest indicated by number in ( ) following the crop.

## Beans, Succulent and Dry (except Lima Beans) (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 quarts per acre	Make applications when insects appear or feeding is noticed. For control of Cowpea Curculio, make 3 applications at 5-day intervals starting when the pods are 1/2 inch long.
Aphids Armyworms Western Bean Cutworm Whitefly	2 quarts per acre	

Do not feed treated threshings or allow livestock to graze in treated fields.

Do not use on Lima Beans that are to be removed from the field for processing.

Do not make more than 3 applications per year.

Do not exceed a maximum of 3.0 lbs. active ingredient endosulfan (i.e., 6 quarts) per acre per year.

## Carrots (7)

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

Do not use tops for food or feed.

Do not make more than one application per year.

Do not exceed a maximum of 1.0 lb. active ingredient endosulfan (i.e., 2 quarts) per acre per year.

## Brussel Sprouts (14), 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	1½ to 2 quarts per acre	Make applications when insects appear or feeding is noticed.
Armyworms Cutworms Whitefly	2 quarts per acre	

Do not make more than 4 applications per year.

Do not exceed a maximum of 3.0 lbs. active ingredient endosulfan (i.e., 6 quarts) per acre per year.

## Collards (21)

Insects Controlled	Rate of Application	Method of Application
Aphids Cabbage Looper Diamondback Moth larvae Fall Armyworm Flea Beetles Harlequin Bug Imported Cabbageworm Leafhoppers	1½ to 2 quarts per acre	Make applications when insects appear or feeding is noticed.
Whitefly	2 quarts per acre	

Do not make more than one application per year.

Do not exceed a maximum of 1.0 lb. active ingredient endosulfan (i.e., 2 quarts) per acre per year.

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**Spinach (21)**

Insects Controlled	Rate of Application	Method of Application
Armyworms Crown Mite Flea Beetles Green Peach Aphid Leafhoppers	1½ to 2 quarts per acre	Make applications when insects appear or feeding is noticed.
Whitefly	2 quarts per acre	

Do not make more than one application per year.  
Do not exceed a maximum of 1.0 lb. active ingredient endosulfan (i.e., 2 quarts) per acre per year.

**Tomatoes (Greenhouse) (2)**

Insects Controlled	Rate of Application	Method of Application
Aphids Blister Beetle Colorado Potato Beetle Flea Beetles Tomato Hornworm	1 to 2 quarts per acre	Make applications when insects appear or feeding is noticed.
Cabbage Looper Stink Bugs	1½ to 2 quarts per acre	
Tomato Fruitworm Tomato Russet Mite Whitefly Yellowstriped Armyworm	2 quarts per acre	
Whitefly	1 quart 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 endosulfan (i.e., 6 quarts) 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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—FMC Trademark

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