

FEB 10 1992

Ms. Lizbeth R. Huckaba
Rhone-Poulenc Ag Company
P. O. Box 12014, 2 T.W. Alexander Drive
Research Triangle Park, NC 27709

Dear Ms. Huckaba:

Subject: Conditional Amendment for
Broccoli, Cabbage, Cauliflower
Larvin Brand DF Thiodicarb Insecticide
EPA Registration No. 264-378
Your submission of January 9, 1992

The Agency is conditionally approving an amendment to the registration of the above-referenced product under the authority of section 3(c)(7)(B) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). This amendment allows use of the subject product on broccoli, cabbage, and cauliflower. In accordance with your request, this amendment will expire automatically on August 12, 1993. In addition, during the period that this amendment is effective, it will be subject to the conditions listed below. To maintain your registration you must:

1. Submit the following data:
 - a. Metabolism study in an appropriate species (primate) and information on whether there is a species-specific metabolic conversion of thiodicarb to acetamide.
 - b. Substantiation of the isomeric form of the formulated product.
 - c. Studies designed to identify and measure (as the glucuronide, or other conjugates) the N-hydroxy acetamide metabolite.
2. Submit and/or cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
3. Submit production information (pounds or gallons produced)

for this product for which the use on broccoli, cabbage, cauliflower is conditionally registered, in accordance with FIFRA sec. 29. The production information will be submitted to the Agency no later than November 15, following the end of the preceding fiscal year.

This information should be submitted to:

Process Coordination Branch
Registration Division (H7505C)
Environmental Protection Agency
Washington D.C. 20460

4. Incorporate label amendments that were approved on January 27, 1992 into this label.
4. Submit five (5) copies of you final printed labeling before you release the product for shipment.

You should note that if you fail to satisfy any of the conditions imposed on this registration, e.g., you fail to submit the required data, EPA may issue a Notice to cancel this amendment under section 6(e) of FIFRA.

You should also note that, regardless of whether you satisfy all applicable conditions, this conditional registration will expire automatically on August 12, 1993. Sales and distribution of the subject product bearing labeling for use on leafy vegetables after August 12, 1993 will be illegal. The tolerance authorizing residues of the subject product in leafy vegetables will expire automatically, on August 12, 1994. After that date, sales or distribution of food in interstate commerce containing any residue of the subject product will be in violation of the Federal Food, Drug and Cosmetic Act.

The Agency will not renew, extend or establish a new tolerance nor issue a new conditional registration for the leafy vegetables use until the required studies have been submitted, reviewed and found acceptable.

A stamped copy of the labeling is enclosed for your records.

Sincerely yours,

DTE

Dennis H. Edwards, Jr.
Product Manager (19)
Insecticide Rodenticide Branch
Registration Division (H-7505C)

LARVIN® brand DF Thiodicarb Insecticide-Pending-4/25/88

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ACCEPTED
with COMMENTS
EPA Label Draft

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

264-378

LARVIN® DF Thiodicarb Insecticide

80% Dry Flowable

ACTIVE INGREDIENT	Percent by Weight
THIODICARB	
Dimethyl N, N' [(thiobis [(methylimino) carbonyloxy]] bis [ethanimidcthiolate]).....	80.2%

INERT INGREDIENTS19.8%

EPA Registration No. 264-378

EPA Establishment No. 264-M0-02

KEEP OUT OF REACH OF CHILDREN

WARNING AVISO

MAY BE HARMFUL OR FATAL IF SWALLOWED OR INHALED. ANTIDOTE IS ATROPINE SULFATE. SEE STATEMENT OF PRACTICAL TREATMENT AND OTHER PRECAUTIONARY STATEMENTS ON LEFT PANEL. READ THE ENTIRE LABEL BEFORE USING THIS PESTICIDE.

LA USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente. (TO THE USER: If you cannot read English, do not use this product until the label has been fully explained to you.)

For Emergency Information ONLY 24 Hours A Day 1-800-334-7577.

For Product Handling, Use and General Information CALL 1-800-334-9745.

Net contents 12.5 lbs. (5.6 kilograms)

**Rhône-Poulenc Ag. Company
P.O. Box 12014, 2 T. W. Alexander Drive
Research Triangle Park, North Carolina 27709**

U.S. Patent No.: 4,382,957

Made in U.S.A.

LARVIN® is a registered trademark of Rhône-Poulenc for thiodicarb insecticide.

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PRECAUTIONARY STATEMENTS

WARNING

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

May be harmful or fatal if swallowed or inhaled. May be harmful if absorbed through the skin. May be irritating to eyes and may cause mild skin sensitization. Do not take internally. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist.

Wear long-sleeved clothing while using. Remove contaminated clothing daily; wash before reuse. Wash exposed skin thoroughly with soap and water after use and before eating or smoking. Discontinue use if allergic reaction occurs.

SIGNS AND SYMPTOMS OF OVEREXPOSURE:

Salivation, Watery eyes, Pinpoint eye pupils, Blurred vision, Muscle tremors, Difficult breathing, Excessive sweating, Abdominal cramps, Nausea, Vomiting, Diarrhea, Weakness, Headache. In severe cases, convulsions, unconsciousness and respiratory failure may occur.

ANTIDOTE STATEMENT

ATROPINE SULFATE IS HIGHLY EFFECTIVE AS AN ANTIDOTE. See NOTE TO PHYSICIAN below.

STATEMENT OF PRACTICAL TREATMENT

GENERAL

Contact a physician immediately in all cases of suspected poisoning. If breathing stops, establish an airway, start artificial respiration, and provide oxygen. Make certain to remove all sources of continuing contamination. Remove clothing and wash skin and hair immediately with large amounts of water. Transport the patient to a physician or hospital immediately and SHOW A COPY OF THIS LABEL TO THE PHYSICIAN.

IF SWALLOWED: Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Never give anything by mouth to an unconscious or convulsing person. Call a physician and follow General advice listed above.

IF IN EYES: Flush eyes with plenty of water. Get medical attention if irritation persists.

IF ON SKIN: Wash thoroughly with soap and water.

IF INHALED: Call a physician and follow General advice listed above.

NOTE TO PHYSICIAN

LARVIN® thiodicarb is an oxime carbamate insecticide, which is a cholinesterase inhibitor. Overexposure to this substance may cause toxic signs and symptoms due to stimulation of the cholinergic nervous system. These effects of overexposure are spontaneously and rapidly reversible.

Specific treatment consists of parenteral atropine sulfate. Caution should be maintained to prevent overatropinization. Mild cases may be given 1 to 2 mg intramuscularly every 10 minutes until full atropinization has been achieved and repeated thereafter whenever symptoms reappear. Severe cases should be given 2 to 4 mg intravenously every 10 minutes until fully atropinized, then intramuscularly every 30 to 60 minutes to maintain the effect for at least 12 hours. Dosages

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LARVIN® brand DF Thiodicarb insecticide-Pending-4/25/88

for children should be appropriately reduced. Complete recovery from overexposure is to be expected within 24 hours.

Narcotics and other sedatives should not be used. Further, drugs like 2-PAM (pyridine-2-aldoxime methiodide) are NOT recommended unless organophosphate intoxication is also suggested.

To aid in confirmation of a diagnosis, urine samples should be obtained within 24 hours of exposure and immediately frozen. Analyses will be arranged by Rhône Poulenc Ag Company.

Consultation on therapy can be obtained at all hours by calling the Rhône-Poulenc emergency number : 1-800-334-7577.

ENVIRONMENTAL HAZARDS

Avoid direct applications to lakes, streams and ponds. Do not apply when weather conditions favor drift from area treated. This product is toxic to bees exposed to direct treatment. Do not apply when bees are actively visiting the treatment area.

GENERAL INFORMATION

LARVIN® DF is a dry flowable concentrate (water dispersible granule) formulation of Thiodicarb insecticide that readily disperses in water for purposes of spraying by ground or air equipment. Directions on this label are based on tests and field experience relating to effectiveness, impact on environment and residues remaining in food and feed. **READ THE ENTIRE LABEL AND OBSERVE ALL LABEL DIRECTIONS AND PRECAUTIONS BEFORE USE.**

DIRECTIONS FOR USE

NOTE: IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

Do not use LARVIN DF except as directed on this label or on other Rhône-Poulenc Ag Company supplemental labeling for this product.

GENERAL WORKER PROTECTION STATEMENTS

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

Do not enter treated areas without protective clothing until sprays have dried.

Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. Advise workers to stay out of fields during application and until sprays have dried. Regular long-sleeved work clothing should be worn when working in treated fields. See Precautionary Statement, Statement of Practical Treatment and Note to Physician for information on accidental exposures. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must

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include the following information: appropriate signal word (WARNING), area treated with LARVIN® brand DF Thiodicarb Insecticide, date of application, appropriate protective clothing, appropriate reentry interval, if applicable.

GENERAL DIRECTIONS

SPRAY PREPARATION: Remove oil, rust, scale, pesticide residues and other foreign matter from sprayer and strainer. Flush with clean water. Use 50 mesh screens or slotted strainers in spray system. To prepare for spraying, fill tank approximately one-half full of water. Add LARVIN DF Insecticide and mix thoroughly by mechanical or hydraulic agitation. Finish filling tank with water to desired volume and thoroughly mix. Do not store spray mixture for prolonged periods. If tank-mixes are to be used, LARVIN DF must be fully dispersed in water first, followed by the addition of the intended tank-mix material.

COMPATIBILITY: LARVIN DF, when diluted with an equal volume of water, is physically compatible with a wide range of commonly used spray products, but the full range of compatibilities under local conditions is not known. Therefore, it is essential that before using any tank mixture of LARVIN DF Insecticide, the compatibility of the mixture be established. Add a small amount of LARVIN DF Insecticide to an equal volume of water in a small container and then add the other pesticide or spray product and mix thoroughly. **DO NOT USE MIXTURES THAT CURDLE, PRECIPITATE, OR GREASE. THIS PRODUCT IS NOT MISCIBLE WITH VEGETABLE OIL DILUENTS. TANK MIXTURES SHOULD BE USED WITHIN 6 HOURS AFTER MIXING.**

NOTE: LARVIN Thiodicarb Insecticide is hydrolytically sensitive to degradation of active ingredient by strong acids, strong bases, and certain heavy metal oxides and salts of certain fungicides such as Maneb, Mancozeb, Copper Count N-8, and Bordeaux mixture. **DO NOT USE LARVIN DF INSECTICIDE IN SPRAY MIXTURES WITH THE ABOVE METAL PRODUCTS. DO NOT ADD LARVIN DF TO WATER WITH pH VALUES BELOW 3.0 OR ABOVE 8.5. If necessary, water should be buffered within this range before adding LARVIN Thiodicarb Insecticide.**

APPLICATION: Begin application when insect populations reach recognized economic threshold levels. Consult the Cooperative Extension Service, Professional Consultants or other qualified authorities to determine appropriate threshold levels for treatment in your area. Apply a minimum finished spray volume of 3 gallons per acre by air or 15 gallons per acre by ground for sweet corn. Repeat application as needed to maintain control. Use higher dosage rates for heavier infestations or larger larvae. Use lower rates for light to moderate infestations.

To clean the sprayer after use, drain and flush with water.

DIRECTIONS FOR USE THROUGH SPRINKLER IRRIGATION SYSTEMS

Apply this product only through sprinkler irrigation systems including center pivot and solid set. Do not apply this product through any other type of irrigation system.

SPRAY PREPARATION: Remove scale, pesticide residues, and other foreign matter from the chemical tank and entire injector system. Flush with clean water.

APPLICATION INSTRUCTIONS: First prepare a suspension of LARVIN® brand DF Thiodicarb Insecticide in a mix tank. Fill tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of LARVIN® brand DF and then the remaining volume of water. (Suspension concentrations using the appropriate dosage per acre.)

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LARVIN® brand DF Thiodicarb Insecticide-Pending-4/25/88

recommended on this label of LARVIN® brand DF per 1 to 4 gallons of water are recommended). Then set sprinkler to deliver 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of LARVIN® brand DF into the irrigation water line so as to deliver the desired rate per acre. The suspension of LARVIN® brand DF should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. If you should have any other questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

NOTE: When treatment with LARVIN® brand DF Thiodicarb Insecticide has been completed, further field irrigation over the treated area should be avoided for 24 to 48 hours to prevent washing the chemical off the crop.

GENERAL PRECAUTIONS FOR APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS

Maintain continuous agitation in mix tank during mixing and application to assure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute solution per unit time.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shutdown. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment.

Do not apply when wind speed favors drift, when system connection or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from non-uniform distribution of treated water.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation shall shut the system down and make necessary adjustments should they need arise.

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Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label-prescribed safety devices for public water supplies are in place.

RECOMMENDED USES

CROP	INSECT	DOSAGE PER ACRE		SPECIFIC DIRECTIONS
		POUNDS ACTIVE	POUNDS DF	
Sweet Corn (Fresh Market Only)	Com earworm	0.5	0.63	<u>Insects attacking silks and ears:</u> Apply at 1-7 day intervals starting when silks first appear and continuing until silks begin to dry or infestation potential ceases. Follow local recommendations for proper timing. <u>Whorl or foliage feeders:</u> For best results, use sprays of 15 gallons or more per acre applied by ground equipment using solid or hollow cone nozzles directed into the plant whorl. Also refer to general directions for use.
	European corn borer	to 0.75	to 0.94	
	Armyworms (Florida Only)			
	Western bean cutworm			

PREHARVEST AND GRAZING USE INFORMATION AND LIMITATIONS

To avoid illegal residues in or on:

SWEET CORN

- After silk initiation, do not exceed 7.5 pounds of active ingredient (9.4 pounds of LARVIN® DF) per acre per season.
- Do not allow livestock to graze treated fields.
- Do not feed treated corn silage (green plant) or fodder to livestock.
- Ears may be harvested on day of last application.

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FIELD USE CONVERSION TABLE

DOSAGE PER ACRE		
Pounds Active	Pounds LARVIN DF	Acres treated by 12.5 Lbs of LARVIN® DF
0.25	0.31	40.0
0.33	0.41	30.3
0.40	0.50	25.0
0.45	0.56	22.2
0.50	0.63	20.0
0.55	0.69	18.4
0.60	0.75	16.7
0.65	0.81	15.4
0.70	0.88	14.2
0.75	0.94	13.3

STORAGE AND DISPOSAL

STORAGE: Do not store in or around the home. Store unused product in a cool, ventilated, dry locked, area. Do not allow prolonged storage in areas where temperatures frequently exceed 115°F (46°C). Do not contaminate food, water or feed by storage or disposal. NEVER TRANSFER THIS PRODUCT TO ANOTHER CONTAINER FOR STORAGE.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: NEVER REUSE EMPTY CONTAINERS. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If bag is burned, stay out of smoke.

ACCIDENTS: In case of a major spill of LARVIN® DF Thiodicarb Insecticide;
TELEPHONE (24 HOURS A DAY) IN THE USA
1-800-334-7577.

In case of minor spills, follow all precautions indicated above and cleanup immediately. Sweep up and dispose of wastes and broken or empty containers in a landfill approved for pesticide use

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LIMITED WARRANTY AND DISCLAIMER

1. The manufacturer warrants (a) that this product conforms to the chemical description on the label; (b) that this product is reasonably fit for the purposes set forth in the directions for use when it is used in accordance with such directions; and (c) that the directions, warnings and other statements on this label are based upon responsible experts' evaluation of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants, and of residues on food crops, and upon reports of field experiences. Tests have not been made on all varieties or in all states or under all conditions. THE MANUFACTURER NEITHER MAKES NOR INTENDS, NOR DOES IT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE, ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, AND IT EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

2. THIS WARRANTY DOES NOT EXTEND TO, AND THE BUYER SHALL BE SOLELY RESPONSIBLE FOR, ANY AND ALL LOSS OR DAMAGE WHICH RESULTS FROM THE USE OF THIS PRODUCT IN ANY MANNER WHICH IS INCONSISTENT WITH THE LABEL DIRECTIONS, WARNINGS OR CAUTIONS.

3. BUYER'S EXCLUSIVE REMEDY AND MANUFACTURER'S OR SELLER'S EXCLUSIVE LIABILITY FOR ANY AND ALL CLAIMS, LOSSES, DAMAGES, OR INJURIES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER OR NOT BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE, SHALL BE LIMITED, AT THE MANUFACTURER'S OPTION, TO REPLACEMENT OF, OR THE REPAYMENT OF THE PURCHASE PRICE FOR, THE QUANTITY OF PRODUCT WITH RESPECT TO WHICH DAMAGES ARE CLAIMED. IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

NOTICE TO THE BUYER

Purchase of this material does not confer any rights under patents governing this product or the use thereof in countries outside of the United States.

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EPA Reg. No. 264-378

RECOMMENDED USES FOR BROCCOLI, CABBAGE
AND CAULIFLOWER

SITE	PEST	Dosage Per Acre		SPECIFIC DIRECTIONS	USE RESTRICTIONS
		Pounds Active	Pounds DF		
Broccoli, Cabbage, Cauliflower	Alfalfa Looper Beet Armyworm Cabbage flea beetle Diamondback moth Imported cabbageworm	0.4 to 0.8	0.5 to 1.0	Spray as needed. As insect populations increase and/or new plant growth is rapid, the spray interval should be shorter. Use higher dosage rates for heavier infestations or large larvae. Use lower rates for light to moderate infestations. Apply in a minimum finished spray volume of 5 gallons per acre by air or 20 gallons per acre by ground.	Do not exceed 6.0 pounds of active ingredient (7.5 pounds of this product) per acre per season. Do not apply less than 7 days before harvest.
	Cabbage Looper	0.6 to 1.0	0.75 to 1.25		

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