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264-379

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 30 1994

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Patricia Kwiatkowski  
RHONE-POULENC AG COMPANY  
BOX 12014  
Research Triangle Park, NC 27709

Subject: Label Amendment Submission of 09/13/93 in Response to PR Notice 93-7  
EPA Reg. No. 264-379  
LARVIN BRAND 3.2 THIODICARB INSECTICIDE/OVICIDE

Dear Registrant:

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

**WHAT THIS ACCEPTANCE MEANS:**

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

**WHAT YOU NEED TO DO NEXT:**

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

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



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

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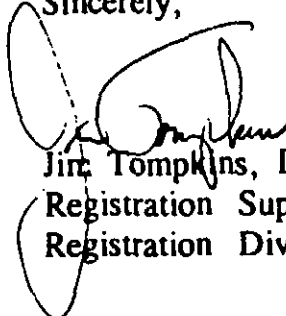
Submit the final printed labeling via the U.S. Postal Service to:

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

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

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

Sincerely,



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

Attachment

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Registration Division

Patricia Kwiatkowski  
RHONE-POULENC AG COMPANY  
BOX 12014  
RESEARCH TRIANGLE PARK NC 27709

Comment for: EPA Reg Nr.264-379  
LARVIN BRAND 3.2 THIODICARB INSECTICIDE/OVICIDE

The following specific comments pertain to your WPS  
labeling submission concerning the product  
cited above:

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

Correct the typographical errors circled on your proposed  
label.

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# LARVIN<sup>®</sup> brand 3.2 Thiodicarb Insecticide/Ovicide Aqueous Flowable

## ACTIVE INGREDIENT

THIODICARB: Dimethyl N, N' [(thiobis [(methylimino) carbonyloxy]] bis [ethanimidothioate]).....34% by wt.  
INERT INGREDIENTS.....66% by wt.

Contains 3.2 pounds active thiodicarb per U.S. gallon

EPA Reg. No. 264-379

EPA Est. No. 264-MO-02

## KEEP OUT OF REACH OF CHILDREN WARNING AVISO

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.)

For **MEDICAL** and **TRANSPORTATION** Emergencies **ONLY** Call 24 Hours A Day 1-800-334-7577  
For **PRODUCT USE** Information Call 1-800-334-9745

## STATEMENT OF PRACTICAL TREATMENT

Thiodicarb is an N-methyl carbamate.

May be fatal if swallowed. May be harmful if inhaled or absorbed through the skin. Antidote is Atropine Sulfate. For additional precautionary statements, read the entire label before using this product.

**IF SWALLOWED:** If patient is conscious and alert, give 2 to 3 glasses of water or milk to drink. If available, give one tablespoon of Syrup of Ipecac to induce vomiting. If vomiting does not occur within 20 minutes of the first dose, follow with a second and last dose of 1 teaspoon. Alternatively, induce vomiting by touching back of throat with finger. Do not make an unconscious person vomit. **GET MEDICAL ATTENTION.**

**IF IN EYES:** Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. **GET MEDICAL ATTENTION.**

**IF ON SKIN:** Immediately flush skin with plenty of water while removing contaminated clothing and shoes. *delete*

**IF INHALED:** Remove to fresh air. If not breathing, give artificial respiration. Administer oxygen if necessary. **GET MEDICAL ATTENTION.**

### 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 poisoning is suspected in animals, contact a veterinarian.

### NOTE TO PHYSICIAN

All treatments should be based on observed signs and symptoms of distress in the patient. Overexposure to materials other than this product may have occurred.

This product contains an N-methyl 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. Gastric lavage may be used if this product has been swallowed. LARVIN<sup>®</sup> poisoning may occur rapidly after ingestion and prompt removal of stomach contents is indicated.

Specific treatment consists of parenteral atropine sulfate. Caution should be maintained to prevent over atropinization. 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 as needed to maintain the effect for at least 12 hours. Dosages 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.

ACCEPTED  
with COMMENTS  
in EPA Letter Dated

MAR 30 1994

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

264-379

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## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)

#### WARNING

Illness may result rapidly following overexposure to this product. May be fatal if swallowed. May be harmful if inhaled or 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. Keep away from domestic animals. Discontinue use if allergic reaction occurs. Do not eat or use tobacco while using this product.

#### SIGNS AND SYMPTOMS OF OVEREXPOSURE

Salivation, Muscle tremors, Nausea, Watery eyes, Difficult breathing, Vomiting, Pinpoint eye pupils, Excessive sweating, Diarrhea, Blurred vision, Abdominal cramps, Weakness, Headache.

**IN SEVERE CASES, CONVULSIONS, UNCONSCIOUSNESS, AND RESPIRATORY FAILURE MAY NOT OCCUR.**

**ANTIDOTE STATEMENT: ATROPINE SULFATE IS HIGHLY EFFECTIVE AS AN ANTIDOTE. See NOTE TO PHYSICIAN.**

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

### ENVIRONMENTAL HAZARDS

This product is toxic to fish, birds, invertebrates and other wildlife. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes. 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® brand 3.2 Thiodicarb Insecticide/Ovicide is an aqueous flowable formulation that readily disperses in water for 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

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.  
Read entire label before using this product.

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 regulations.

Do not use this product except as directed on this label or on other Rhône-Poulenc Ag Company supplemental labeling for this product. Applications at higher rates or at more frequent intervals than is stated on the label may result in illegal residues in crops, meat and milk.

### 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 expectations pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry intervals. 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 12 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.

See Precautionary Statement, Statement of Practical Treatment, and Note to Physician for information on accidental exposures.

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## 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). NEVER TRANSFER THIS PRODUCT TO ANOTHER CONTAINER FOR STORAGE.

If container is damaged, before clean-up, put on long-sleeved shirt and long pants, waterproof gloves, shoes plus socks and chemical-resistant headgear for overhead exposure.

### PESTICIDE DISPOSAL:

Do not contaminate water, food or feed by storage or disposal. Contamination with this product will render water, food or feed unfit for human or animal consumption. 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. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If container is burned, stay out of smoke.

**ACCIDENTS:** In case of a major spill of LARVIN® brand 3.2 Thiodicarb Insecticide/Ovicide

**TELEPHONE (24 HOURS A DAY) IN THE U.S.A. 1-800-334-7577.**

In case of minor spills or leaks follow all precautions indicated above and cleanup immediately. Soak up with sand, earth or other suitable material and dispose of wastes and broken or empty containers in a landfill approved for pesticide use.

## GENERAL DIRECTIONS

**SPRAY PREPARATION:** TO ASSURE A UNIFORM PRODUCT, AGITATE OR SHAKE ALL CONTAINERS OF THIS PRODUCT PRIOR TO USE. Remove oil, rust, scale, pesticide residues and other foreign matter from sprayer and strainer. Flush with clean water. Use 50 mesh screens or equivalent slotted strainers in spray system. To prepare for spraying, fill tank to approximately 1/2 the needed volume of water. Add the required amount of this 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® brand 3.2 Thiodicarb Insecticide/Ovicide must be fully dispersed in water first, followed by the addition of the intended tank-mix material.

**COMPATIBILITY:** Thiodicarb Insecticide 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 LARVIN® brand 3.2 Thiodicarb Insecticide/Ovicide in any tank mixture the compatibility of the mixture be established. Add a small amount of this product 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 COMPATIBLE WITH NON-EMULSIFIED VEGETABLE OR CROP OIL DILUENTS. FOR BEST RESULTS, SPRAY MIXTURES SHOULD BE USED IMMEDIATELY AFTER MIXING WITH ADEQUATE AGITATION.**

**NOTE:** 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. Degradation can cause reduced effectiveness, plant phytotoxicity and increased handling hazards. DO NOT USE THIS PRODUCT IN SPRAY MIXTURES WITH THE ABOVE TYPE OF PRODUCTS INCLUDING MIXTURES WITH Maneb, Mancozeb (except Manzate 200 and Dithane M-45 wettable powders where mixtures are used immediately after mixing), Copper Count N-8, and Bordeaux mixture. DO NOT ADD LARVIN® TO WATER WITH pH VALUES BELOW 3.0 OR ABOVE 8.5. If necessary, water should be buffered within this range before adding LARVIN®.

## DIRECTIONS FOR AERIAL OR GROUND SPRAY APPLICATION

**APPLICATION TIMING:** 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.

**APPLICATION INSTRUCTIONS:** Apply a minimum finished spray volume of 2 gallons per acre by air or 5 gallons per acre by ground unless otherwise directed under crop specific directions. Under extreme pest populations and dense foliage, use a minimum spray volume of 5 gallons per acre by air and a minimum spray volume of 10 gallons per acre by ground. For best results, it is important to obtain thorough and uniform spray coverage of the plant. Repeat application as needed to maintain control. Use higher dosage rates for heavy infestations, large larvae, or dense foliage. The specific length of residual control depends on environmental factors, plant growth, dosage rate, and degree of insect infestation. Although LARVIN® has some contact activity, larvae not feeding on treated foliage will not be controlled. When banding, determine the amount of chemical to use per acre by dividing the band width by the row width and multiplying by the appropriate broadcast rate.

To clean the sprayer after use, drain and flush with water. Use rinsings on crop according to label instructions or dispose of in an approved manner (See STORAGE AND DISPOSAL).

## 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 3.2 Thiodicarb Insecticide/Ovicide 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® 3.2, and then the remaining volume of water. (Suspension concentrations using the appropriate dosage per acre recommended on this label of LARVIN® 3.2 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® 3.2 into the irrigation water line so as to deliver the desired rate per acre. The suspension of LARVIN® 3.2 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 3.2 Thiodicarb Insecticide/Ovicide 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 the need arise.

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 FOR BROCCOLI, CABBAGE AND CAULIFLOWER**

**SPRAY VOLUME FOR BROCCOLI, CABBAGE AND CAULIFLOWER:** Apply in a minimum finished spray volume of 5 gallons per acre by air or 20 gallons per acre by ground.

SITE	PEST	DOSAGE PER ACRE		SPECIFIC DIRECTIONS	USE RESTRICTIONS
		Pounds Active	Fluid Ounces		
COLE CROPS (BROCCOLI, CABBAGE, CAULIFLOWER)	Alfalfa Looper	0.4	16.0	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.	Do not exceed 6.0 pounds of active ingredient (240 fluid ounces of LARVIN® brand 3.2) per acre per season. Do not apply less than 7 days before harvest.
	Beet Armyworm	1.0	40.0		
	Cabbage Flea Beetle	0.8	32.0		
	Imported Cabbageworm				
	Cabbage looper	0.6	24.0	<b>NOTE:</b> Regional differences have been noted in the susceptibility of certain strains of diamondback moth to thiodicarb. If local experience indicates inadequate control, use an alternate pesticide.	
	Diamondback moth	1.0	40.0		

**RECOMMENDED USES FOR COTTON**

**INTEGRATED PEST MANAGEMENT (IPM) USE OF THIS PRODUCT**

LARVIN® Thiodicarb Insecticide/Ovicide has both contact and residual ovicidal activity which can be effectively utilized in IPM programs (See ovicide section). LARVIN® used as an ovicide or a larvicide has been shown to leave substantial populations of beneficial insects and spiders after use. The lower rates allow for maximum beneficial survival and faster rebound of beneficial populations. Larvicidal and ovicidal control coupled with retention of beneficial insects and spiders can offer significant benefits to those producers utilizing integrated pest control programs.

**SPRAY VOLUME FOR COTTON:** LARVIN® brand 3.2 Thiodicarb Insecticide/Ovicide should be applied in a minimum finished spray volume of 2 gallons per acre by aircraft and 5 gallons per acre by ground equipment. Under extreme pest populations or dense foliage, use a minimum spray volume of 5 gallons per acre by air and a minimum spray volume of 10 gallons per acre by ground.

SITE	PEST	DOSAGE PER ACRE		SPECIFIC DIRECTIONS	USE RESTRICTIONS
		Pounds Active	Fluid Ounces		
COTTON	Ovicide: Cotton bollworm Tobacco budworm	0.125 to 0.25	5.0 to 10.0	<p>Apply on a 3 to 5 day schedule when moth flights begin or sufficient eggs are present.</p> <p>Thorough spray coverage is necessary as eggs must be contacted by LARVIN® for activity to occur. Eggs laid on untreated foliage or not contacted by LARVIN® sprays will not be controlled.</p> <p>If significant number of larvae survive, use higher recommended LARVIN® rates or 0.125 to 0.25 lbs ai/A of LARVIN® in tank mixture combinations with organophosphates, pyrethroids or <i>Bacillus thuringiensis</i> such as DiPel® ES registered for use on cotton at their label recommended rates.</p> <p>Observe all restrictions and precautions which appear on the labels of all products to be tank mixed with LARVIN®.</p>	<p>Do not allow livestock to graze fields. Do not apply less than 28 days before harvest.</p> <p>In Arizona, apply before bolls begin to open and do not exceed 1.8 pounds per acre per season.</p>
	Larvicide: Cotton bollworm Tobacco budworm	0.6 to 0.9	24.0 to 36.0	<p>In this rate range, LARVIN® is a direct contact and residual contact ovicide, as well as an effective larvicide. Although LARVIN® has some contact activity, larvae must feed on treated foliage to be controlled. Use the higher rate when insect larvae populations are heavier or when infestations are predominantly large larvae (&gt;1/4 inch in size).</p>	



RECOMMENDED USES FOR COTTON (CONTINUED)

SITE	PEST	DOSAGE PER ACRE		SPECIFIC DIRECTIONS	USE RESTRICTIONS
		Pounds Active	Fluid Ounces		
COTTON (cont)	Larvicide (Cont.): Armyworms (such as: Beet, Fall, etc.) Cabbage looper Cotton leaf perforator Cotton leafworm Soybean looper  Fleahopper (Suppression) Pink bollworm (Suppression) Plant bugs (Suppression)	0.6 to 0.9	24.0 to 36.0	As pest pressure increases, reduce intervals between applications and/or increase dosage rate as indicated in specific directions below.  A rate of 24 fluid ounces (0.60 lbs. active) should be used when: For low to moderate insect populations and when maximum survival of beneficial insects and spiders is desired.  Rates of 30 to 36 fluid ounces (0.75 to 0.90 lbs. active) should be used when: Insect populations are heavy or infestation is predominantly large larvae. Although LARVIN® has some contact activity, larvae must feed on treated foliage to be controlled. Applications for suppression of Pink bollworm should be timed for the presence of adult moths.	Do not allow livestock to graze fields. Do not apply less than 28 days before harvest.  In Arizona, apply before bolls begin to open and do not exceed 1.8 pounds per acre per season.
	Boll weevil (Suppression)	0.6 to 0.9	24.0 to 36.0	Light Boll Weevil Populations: When spraying LARVIN® on a 5 to 7 day worm control schedule, control of boll weevil will usually be adequate to maintain boll weevil populations below established economic thresholds.  Moderate to Heavy Boll Weevil Populations: When spraying LARVIN® on a worm control schedule, application of a registered boll weevil control product and/or tank mix of LARVIN® plus a registered boll weevil product should be used. A 3 to 5 day interval between sprays may be required to maintain boll weevil control under heavy infestations.	
	Cutworms	0.6	24.0	See "SPECIAL DIRECTIONS ON CUTWORMS"	

**RECOMMENDED USES FOR LEAFY VEGETABLES**

**SPRAY VOLUME FOR LEAFY VEGETABLES:** Apply in a minimum finished spray volume of 5 gallons per acre by air or 20 gallons per acre by ground.

SITE	PEST	DOSAGE PER ACRE		SPECIFIC DIRECTIONS	USE RESTRICTIONS
		Pounds Active	Fluid Ounces		
LEAFY VEGETABLES (Amaranth, arugula, celery, celtuce, chervil, corn salad, chrysanthemum (edible leaved, garland), cress (garden, upland), dandelion, dock, endive, Florence fennel, lettuce (head, leaf), orach, parsley, purslane (garden, winter), rhubarb, spinach(leaf, fine, new zealand), Swiss chard	Alfalfa looper	0.4	16.0	Spray as needed. Use the higher dosage rates for heavier infestations of larger larvae. Use the lower rates for light to moderate infestations.	Do not exceed 1.5 pounds of active ingredient (60 fluid ounces of LARVIN® brand 3.2) per acre per season.  Do not apply less than 14 days before harvest.
	Armyworms (Such as: Beet, Fall, Southern) <i>Heliothis zea</i> (Boltworm, Corn earworm, Tomato fruitworm)	to 0.75	to 30.0		
	Cabbage looper	0.6 to 0.75	24.0 to 30.0		

**RECOMMENDED USES FOR SOYBEANS  
(STANDARD AND LOW SPRAY VOLUMES)**

**STANDARD SPRAY VOLUME FOR SOYBEANS:** Apply in a minimum finished spray volume of 2 gallons per acre by air or 5 gallons per acre by ground. Under extreme pest populations or dense foliage, use a minimum spray volume of 5 gallons per acre by air and a minimum of 10 gallons per acre by ground.

**LOW SPRAY VOLUME FOR SOYBEANS:** Apply in a minimum finished spray volume of 1 gallon per acre by aircraft. Only use the low volume aerial application (i. e., minimum of 1 GPA) where that spray volume will provide adequate coverage of the crop.

SITE	PEST	DOSAGE PER ACRE		SPECIFIC DIRECTIONS	USE RESTRICTIONS
		Pounds Active	Fluid Ounces		
SOYBEAN (Standard Spray Volume Applications)	Podworms (Bollworm, Corn earworm, Tobacco budworm) Armyworms (Such as: Beet, Fall, Southern, Yellow-striped, etc.) Green cloverworm Velvetbean caterpillar Woollybear caterpillar	0.25 to 0.4	10.0 to 16.0	Use the lower rates for low to moderate populations and maximum protection of beneficials.	Do not feed forage, hay or straw to livestock. Do not apply less than 28 days before harvest.
	Soybean looper Cabbage looper Mexican bean beetle Bean leaf beetle Stinkbugs (Suppression) Three-cornered alfalfa hopper (Suppression)	0.45 to 0.75	18.0 to 30.0		
	Cutworms	See "SPECIAL DIRECTIONS ON CUTWORMS"			
SOYBEAN (Low Spray Volume Applications)	Podworms (Bollworm, Corn earworm, Tobacco budworm) Green Cloverworm Velvetbean caterpillar Armyworms (such as Fall, Beet, Southern, etc.) Woollybear caterpillar	0.25 to 0.40	10.0 to 16.0	For best results, use the lower rates for low to moderate populations and maximum protection of beneficials.  When applying at 1 gallon of spray volume per acre by air, use 1 quart of emulsified crop or vegetable oil (e.g., emulsified corn, soybean or cottonseed oil). Water alone may be used as a diluent for spray volumes of 2 gallons or higher per acre.  <b>TANK MIX DIRECTIONS FOR EMULSIFIED CROP OR VEGETABLE OILS:</b> Fill spray tank with approximately 3/4 of the water required for the spray mixture. Add the required amount of LARVIN® 3.2 to the spray tank with the agitator running. Then add the desired amount of emulsified crop or vegetable oil. Continue agitation while adding the remainder of water.	<b>FOR USE ONLY IN:</b> Maryland, Virginia, North Carolina, Delaware, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Arkansas and Missouri.  Do not feed forage, hay, or straw to livestock. Do not apply less than 28 days before harvest.

**RECOMMENDED USES FOR SWEET CORN**

**SPRAY VOLUMES FOR SWEET CORN:** Please observe the spray volumes recommended for whorl feeders, silks and ears and foliage feeders under specific directions. For aerial applications, only water may be used as a diluent and total spray volume must be at least 2 gallons per acre.

SITE	PEST	DOSAGE PER ACRE		SPECIFIC DIRECTIONS	USE RESTRICTIONS
		Pounds Active	Fluid Ounces		
SWEET CORN (Florida Fresh Market Only)	Corn earworm European corn borer Armyworms (Such as Fall, Beet, etc). Western bean cutworm	0.5 to 0.75	20 to 30	<p><b>Whorl Feeders:</b> Spray as needed. As insect populations increase and/or when new plant growth is rapid, the spray interval should be shorter. For best results, use spray volumes of 15 gallons or more per acre applied by ground equipment using solid or hollow cone nozzles directed into the plant whorl.</p> <p><b>Insects Attacking Silks And Ears:</b> Apply at 1 to 7 day intervals starting when silks first appear and continuing until harvest, if necessary. As insect populations increase and/or silk growth is rapid, the spray interval should be shorter. Use the higher dosage rate and apply at 1 to 2 day intervals following periods of heavy moth flights. Follow local recommendations for proper timing.</p> <p><b>Foliage Feeders:</b> Use at least 2 gallons finished spray volume per acre by air or 10 gallons per acre by ground. Spray as needed.</p>	<p>After silk initiation, do not exceed 7.5 pounds of active ingredient (300 fluid ounces of this product) per acre per season.</p> <p>Do not allow livestock to graze treated field.</p> <p>Do not feed treated corn silage (green plant) or fodder to livestock.</p> <p>Ears may be harvested on day of last application.</p>
	Cutworms	See "SPECIAL DIRECTIONS ON "CUTWORMS"			

**RECOMMENDED USES FOR CUTWORMS**

**SPECIAL DIRECTIONS ON CUTWORMS**

**SPRAY VOLUME FOR CUTWORMS:** Apply in a minimum finished spray volume of 3 gallons per acre by air or 15 gallons per acre by ground.

SITE	PEST	DOSAGE PER ACRE		SPECIFIC DIRECTIONS	USE RESTRICTIONS
		Pounds Active	Fluid Ounces		
COTTON, SOYBEANS, SWEET CORN (Florida, Fresh Market Only)	Cutworms	0.5 to 0.75	20.0 to 30.0	<p><b>Postemergence Rescue Treatments:</b> For best results, apply as a broadcast spray when cutworms are actively feeding. If cutworms are feeding below the ground, control will be more difficult. Light cultivation with a rotary hoe before spraying may enhance control. If banding, use a minimum width of 10 inches over the row. When banding, determine the amount of chemical to use per acre, by dividing the band width by the row width and multiplying by the appropriate broadcast rate.</p>	Refer to each specific crop for use restrictions.

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## RECOMMENDED USES FOR ORNAMENTALS AND TREES

For dilute-spray ground applications to ornamentals (such as: Trees, Shrubs, Herbaceous bedding plants, Herbaceous greenhouse plants and non-bearing fruits):

Apply the specified dosage per 100 gallons of water. For concentrate-spray ground applications, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. For aerial application to ornamental plants, shrubs and trees (except forests), apply the specified dosage per acre in a minimum total spray volume of 5 gallons to provide thorough coverage.

BEFORE MAKING TREATMENTS REFER TO "PLANT TOLERANCE INFORMATION" LISTED ON THIS LABEL.

SITE	PEST	DOSAGE OF LARVIN® BRAND 3.2 THIODICARB INSECTICIDE		SPECIFIC DIRECTIONS	USE RESTRICTIONS
		FLUID OUNCES PER 100 GALS SPRAY OR PER ACRE	PINTS PER 100 GALS SPRAY OR PER ACRE		
<b>ORNAMENTALS</b> such as: Trees (except forests), Shrubs, Herbaceous bedding plants, Herbaceous greenhouse plants, Non-bearing fruit trees (Citrus: Grapefruit, lemons, limes, oranges, tangelos, tangerines, citrus citron, kumquats and hybrids; Nut Crops: almonds, filberts, pecans, walnuts; Pome Fruits: apples, pears, loquats, crabapples, oriental pears, quince; Stone Fruits: peaches, apricots, nectarines, plums, prunes and cherries)	Armyworms Bagworm Cankerworms (such as: spring, fall) Gypsy moth Leafrollers (such as: omnivorous, fruittree) Spruce budworms Webworms (such as: fall, mimosa) Tent caterpillars	20 to 30	1.25 to 1.9	See "Plant Tolerance Information" and "Application" sections of this label.  Apply when pests appear and thereafter as needed not to exceed 6 applications per site per season.	Do not use on fruit trees or vines that will bear edible fruit within one year.

RECOMMENDED USES FOR NON-CROP AREAS

SITE	PEST	DOSAGE PER ACRE			SPECIFIC DIRECTIONS	USE RESTRICTIONS
		Pounds Active	Fluid Ounces	Pints		
NON-CROP AREAS (Wastelands, Roadsides, Rights-of-Way, Grassways, Shelter belts, and Fencerows)	Armyworms	0.40 to 0.76	16.0	1.0	Treat non-crop areas where pests congregate to reduce infestation levels or to prevent movement into croplands. Apply when pests appear and every two weeks thereafter as needed, not to exceed 6 applications per site per season.	Do not allow livestock to graze treated areas. Do not use treated plants as food or feed.
	Bagworm		to	to		
	Budworms	30.0	1.9			
	Cankerworms (such as: spring, fall)					
	Cutworms					
	Gypsy moth					
	Heliothis spp. (such as: corn earworm)					
	Leafrollers (such as: omnivorous, fruittree)					
	Loopers					
	Oakworms					
	Sawflies					
	Skippers					
	Tent caterpillars					
	Webworms (such as: fall, mimosa)					

ORNAMENTAL PLANT TOLERANCE INFORMATION

LARVIN® brand 3.2 Thiodicarb Insecticide has been tested on many species of ornamental plants. Results indicate plants listed below are tolerant to the higher rates of this product. Horticultural varieties of many plants differ significantly in sensitivity to pesticides. Before making applications to plants not listed, it is recommended that a small portion of the crop be treated to determine its tolerance to this product. Plants stressed from heat, moisture or other factors are usually more sensitive to sprays. Phytotoxic reactions can be minimized by spraying when stress is minimal such as early mornings or late evenings.

ORNAMENTAL PLANTS TOLERANT TO THIODICARB INSECTICIDE

TREES	SHRUBS	HERBACEOUS GREENHOUSE PLANTS	HERBACEOUS BEDDING PLANTS
Apple, (Crab)	Arborvitae	<i>Acalypha hispida</i>	Calendula
Birch, (Weeping, White)	Aucuba	<i>Acalypha wilkesiana</i>	Canna
Honeylocust, (Sunburst)	Azalea	<i>Aechmea lueddemanniana</i>	Chrysanthemum
Maple, (Sugar)	Boxwood	<i>Alternanthera versicolor</i>	Coleus
Pine, (Scotch)	Camellia	Aluminum Plant	Geranium
Spruce, (Norway)	Elaeagnus	<i>Begonia semperflorens</i>	Hosta
	Euonymus	Cactus	Impatiens
	Fatsia, (Japanese)	<i>Ceropegia woodii</i>	Lantana
	Gardenia	<i>Chamaedorea elegans</i>	Periwinkle
	Hawthorn	<i>Chlorophytum comosum</i>	Petunia
	Holly, (Japanese)	Dieffenbachia	Salvia
	Holly, (Yaupon)	<i>Dracaena sanderana</i>	Snapdragon
	Juniper	Echeveria	Verbena
	Lantana	Fern	Violet
	Ligustrum	<i>Ficus diversifolia</i>	
	Lilac	Gloxinia	
	Mahonia	<i>Gynura samentosa</i>	
	Osmanthus	<i>Hechtia tellandsioides</i>	
	Pittosporum	Hoya	
	Pyracantha	<i>Iboza riparia</i>	
	Rhododendron	Ivy, (Swedish)	
	Rose, (Hybrid Tea)		
	Yew		
		<i>Ixora</i>	
		Jade Plant	
		<i>Kalanchoe daigremontiana</i>	
		<i>Maranta leuconeura erythroneura</i>	
		<i>Nephrolepis exaltata</i>	
		<i>Peperomia magniifolia</i>	
		<i>Peperomia obtusifolia</i>	
		<i>Philodendron oxycardium</i>	
		Piggyback Plant	
		<i>Pilea grandis</i> -	
		Poinsettia	
		Pseuderanthemum	
		<i>Rhoeo spathacea</i>	
		<i>Sansevieria trifasciata</i>	
		<i>Scindapsus aureus</i>	
		Senecio	
		<i>Spathiphyllum wallisii</i>	
		<i>Syngonium podophyllum</i>	
		Torenia	
		<i>Zebrina pendula</i>	
		<i>Zygocactus truncata</i>	

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**FIELD USE CONVERSION TABLE**

DOSAGE PER ACRE	ACRES TREATED PER VOLUME			
	OF LARVIN® brand 3.2			
Pounds Active	Fluid Ounces	1 gallon	2.5 gallons	5 gallons
0.125	5.0	25.6	64.0	128.0
0.25	10.0	12.8	32.0	64.0
0.33	13.2	9.7	24.2	48.5
0.40	16.0	8.0	20.0	40.0
0.45	18.0	7.1	17.7	35.5
0.50	20.0	6.4	16.0	32.0
0.55	22.0	5.9	14.5	29.0
0.60	24.0	5.3	13.2	26.5
0.65	26.0	4.9	12.3	24.6
0.70	28.0	4.6	11.4	22.8
0.75	30.0	4.2	10.5	21.4
0.80	32.0	4.0	10.0	20.0
0.90	36.0	3.6	8.9	17.8

1 U.S. Gallon Equals 128 Fluid Ounces

**LIMITED WARRANTY AND DISCLAIMER**

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.

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LARVIN® brand 3.2 Thiodicarb Insecticide/Ovicide Aqueous Flowable (PENDING) Resubmitted 9/10/93.