

264-530

11/13/2003

Page 1817

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



OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

November 13, 2003

Danielle LaRoche
Bayer CropScience
PO Box 12014, 2 TW Alexander Dr.
Research Triangle Park, NC 27709

Subject: Larvin brand DF WSP Thiodicarb Insecticide/Ovicide,
EPA Reg. # 264-530
label amendment submitted 8/14/02
accepted

Dear Ms. LaRoche,

This amendment revises the first aid section according to PR Notice 2001-1.

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is ACCEPTED provided that you submit two (2) copies of your final printed labeling prior to releasing your product for shipment.

If the above provisions 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 bearing the amended labeling constitutes acceptance of these conditions.

A copy of your label stamped "accepted" is enclosed for your records.

Sincerely yours,

A handwritten signature in black ink, appearing to read "TCH".

Thomas C. Harris
Insecticide / Rodenticide Branch
Registration Division (7505C)
Office of Pesticide Programs
harris.thomas@epa.gov
(703) 308-9423

enclosure

2 7 17

LARVIN[®] brand DF WSP Thiodicarb Insecticide/Ovicide In Water Soluble Packaging For Ag or Commercial Use Only

ACTIVE INGREDIENT:

(THIODICARB) Dimethyl N, N' [thiobis [(methylimino) carbonyloxy]] bis [ethanimidothioate] 80% by wt.

INERT INGREDIENTS.....

20% by wt.

EPA Reg. No. 264-530

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 1-888-AVENTIS (1-888-283-6847)

FIRST AID

Thiodicarb is an N-methyl carbamate.

IF SWALLOWED:	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor for treatment advice. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Have person sip a glass of water if able to swallow. • Do not give anything by mouth to an unconscious person.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
<p align="center">For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577.</p> <p align="center">Have the product container or label with you when calling a poison control center or doctor or going for treatment.</p>	

ACCEPTED
NOV 13 2003
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 264-530

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[®] 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

3 8 17

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 Aventis CropScience.

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

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING

May be fatal if swallowed. Harmful if inhaled or absorbed through the skin. Illness may result rapidly following overexposure to this product. 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 OCCUR.

ANTIDOTE STATEMENT

TROPINE 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, 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 equipment washwaters. 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 DF WSP Thiodicarb Insecticide/Ovicide is a dry flowable concentrate (water dispersible granule) 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 Aventis CropScience 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 exceptions 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.

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

Do not reuse outer bag. Dispose of outer bag in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

ACCIDENTS: In case of a major spill of LARVIN® brand DF WSP Thiodicarb Insecticide/Ovicide TELEPHONE (24 HOURS A DAY) IN THE U.S.A. 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.

GENERAL DIRECTIONS

HOW TO USE LARVIN® BRAND DF WSP THIODICARB INSECTICIDE/OVICIDE

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 and start agitation. Open outer plastic bag and drop the water soluble paks into the tank. Agitate to ensure thorough mixing for a minimum of 2 minutes or until bags and product are completely dispersed, while filling tank with remaining water. Do not store spray mixture for prolonged periods. If tank mixes are to be used, LARVIN® brand DF WSP 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 DF WSP 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: Be sure the water soluble pak is completely dissolved in the spray tank before adding any other ingredients. 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 PRODUCTS CONTAINING THE ABOVE INGREDIENTS INCLUDING formulations with the active ingredient maneb (i.e., Maneb, Mancozeb), Copper Count N-8 and Bordeaux mixture. Manzate 200 and Dithane M-45 wettable powders may be used if sprayed immediately after mixing. DO NOT ADD LARVIN® BRAND DF WSP THIODICARB INSECTICIDE/OVICIDE TO WATER WITH pH VALUES BELOW 3.0 OR ABOVE 8.5. If necessary, water should be buffered within this range before adding LARVIN® brand DF WSP Thiodicarb Insecticide/Ovicide.

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 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. 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).

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	Pounds LARVIN® BRAND DF WSP		
COLE CROPS (BROCCOLI, CABBAGE, CAULIFLOWER)	Alfalfa Looper	0.5	0.63	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. NOTE: 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.	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.
	Beet Armyworm	to	to		
	Cabbage Flea Beetle	0.75	0.94		
	Imported Cabbageworm				
	Cabbage looper	0.75	0.94		
	Diamondback moth	to 1.0	to 1.25		
	Cutworms	See "SPECIAL DIRECTIONS ON CUTWORMS"			

RECOMMENDED USES FOR COTTON

INTEGRATED PEST MANAGEMENT (IPM) USE OF THIS PRODUCT

LARVIN® brand DF WSP Thiodicarb Insecticide/Ovicide has both contact and residual ovicidal activity which can be effectively utilized in IPM programs (See ovicide section). LARVIN® brand DF WSP Thiodicarb Insecticide/Ovicide 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 DF WSP 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	Pounds LARVIN® BRAND DF WSP		
COTTON	Ovicide: Cotton bollworm Tobacco budworm	0.125 to 0.25	0.16 to 0.31	Apply on a 3 to 5 day schedule when moth flights begin or sufficient eggs are present. Thorough spray coverage is necessary as eggs must be contacted by LARVIN® brand DF WSP Thiodicarb Insecticide/Ovicide for activity to occur. Eggs laid on untreated foliage or not contacted by LARVIN® sprays will not be controlled. 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 organ-ophosphates, pyrethroids or <i>Bacillus thuringiensis</i> such as DIPEL® ES registered for use on cotton at their label recommended rates. Observe all restrictions and precautions which appear on the labels of all products to be tank mixed with LARVIN®	Do not apply less than 28 days before harvest. Do not exceed 0.9 pound active ingredient per acre per application or 5.4 pounds active ingredient per acre per season. Do not apply more than 0.9 pound active ingredient per acre of this product in any 7 day period. In Arizona and California, apply before bolls begin to open and do not exceed 1.8 pounds active ingredient per acre per season.

RECOMMENDED USES FOR COTTON (CONTINUED)

SITE	PEST	DOSAGE PER ACRE		SPECIFIC DIRECTIONS	USE RESTRICTIONS
		Pounds Active	Pounds LARVIN® BRAND DF WSP		
COTTON (cont)	Larvicide: Cotton bollworm Tobacco budworm	0.6 to 0.9	0.75 to 1.12	In this rate range, LARVIN® brand DF WSP Thiodicarb Insecticide/Ovicide 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 (>1/4 inch in size). As pest pressure increases, reduce intervals between applications and/or increase dosage rate as indicated in specific directions below.	Do not apply less than 28 days before harvest. Do not exceed 0.9 pound active ingredient per acre per application or 5.4 pounds active ingredient per acre per season. Do not apply more than 0.9 pound active ingredient per acre of this product in any 7 day period. In Arizona and California, apply before bolls begin to open and
	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	0.75 to 1.12	A rate of 0.75 pounds (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 0.94 to 1.12 pounds (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 exceed 1.8 pounds active ingredient per acre per season.
	Boll weevil (Suppression)	0.6 to 0.9	0.75 to 1.12	LARVIN® brand DF WSP Thiodicarb Insecticide/Ovicide will reduce boll weevil populations comparable to most pyrethroids. 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			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	Pounds LARVIN® BRAND DF WSP		
LEAFY VEGETABLES (Amaranth, arrugula, 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	0.5	0.63	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 (1.9 pounds of LARVIN® brand DF WSP Thiodicarb Insecticide/Ovicide per acre per season. Do not apply less than 14 days before harvest.
	Armyworms (Such as: Beet, Fall, Southern)	to 0.75	to 0.94		
	<i>Heliothis zea</i> (Bollworm, Corn earworm, Tomato fruitworm)				
	Cabbage looper	0.75	0.94		
	Cutworms	See "SPECIAL DIRECTIONS ON CUTWORMS"			

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	Pounds LARVIN® BRAND DF WSP		
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 0.75	0.31 to 0.94	Use the lower rates for low to moderate populations and maximum protection of beneficials. For loopers, use low rate (0.45) for newly hatched worms, moderate rate (0.60) for young worms, and use high rates (0.75) for large worms. Use at least 5 gallons of finished spray material per acre if applied by air.	Do not feed forage, hay or straw to livestock. Do not apply less than 28 days before harvest. Do not exceed 0.75 pound active ingredient per acre per application or 3.0 pounds active ingredient per acre per season. Do not apply more than 0.75 pound active ingredient per acre of this product in any 7 day period.
	Soybean looper Cabbage looper Mexican bean beetle Bean leaf beetle Stinkbugs (Suppression) Three-Cornered alfalfa hopper (Suppression)	0.45 to 0.75	0.56 to 0.94		
	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 0.75	0.31 to 0.94	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. TANK MIX DIRECTIONS FOR EMULSIFIED CROP OR VEGETABLE OILS: Fill spray tank with approximately 3/4 of the water required for the spray mixture. Add the required amount of LARVIN® brand DF WSP Thiodicarb Insecticide/Ovicide 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.	FOR USE ONLY IN 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. Do not exceed 0.75 pound active ingredient per acre per application or 3.0 pounds active ingredient per acre per season. Do not apply more than 0.75 pound active ingredient per acre of this product in any 7 day period.

RECOMMENDED USES FOR SWEET CORN

SPRAY VOLUME FOR SWEET CORN: Apply in a minimum finished spray volume of 3 gallons per acre by air or 15 gallons per acre by ground. 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	Pounds LARVIN® BRAND DF WSP		
SWEET CORN (Florida Fresh Market Only)	Corn earworm	0.5	0.63	<p>Whorl Feeders: 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>Insects Attacking Silks And Ears: 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>Foliage Feeders: Use at least 2 gallons finished spray volume per acre by air or 10 gallons per acre by ground.</p>	<p>After silk initiation, do not exceed 7.5 pounds of active ingredient (9.38 pounds of this product) per acre per season.</p> <p>Do not allow livestock to graze treated fields.</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>
	European corn borer	to 0.75	to 0.94		
	Armyworms (Such as Fall, Beet, etc.) Western bean cutworm				
	Fall armyworm	0.25 to 0.50	0.31 to 0.63	<p>Low dosage/high frequency management program for Tassel, silk, and ear protection only: Start LARVIN® brand DF WSP Thiodicarb Insecticide/Ovicide applications when 1% of plants have initiated tassel stage and spray every day until all plants are completely tasseled (minimum of 5 consecutive sprays). Subsequently, maintain a 1 to 2 day spray schedule for protection of silk and ears until harvest. Use a minimum of 15 gallons of finished spray volume per acre by ground or 5 gallons per acre by air.</p> <p>For best results, whorl stage infestations of fall armyworm should be controlled before onset of tassel stage and use of this LARVIN® recommendation.</p>	
	Cutworms	See "SPECIAL DIRECTIONS ON CUTWORMS"			

11 8 17

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	Pounds LARVIN® BRAND DF WSP		
COTTON SOYBEANS SWEET CORN (Florida Fresh Market Only) CABBAGE BROCCOLI CAULIFLOWER LEAFY VEGETABLE	Cutworms	0.5 to 0.75	0.63 to 0.94	Postemergence Rescue Treat-ments: 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.	Refer to each specific crop for use restrictions.

12 8 17

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	POUNDS OF LARVIN® BRAND DF WSP PER 100 GALS SPRAY/ OR PER ACRE	SPECIFIC DIRECTIONS	USE RESTRICTIONS
<p>ORNAMENTALS 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;</p> <p>Nut Crops: almonds, filberts, pecans, walnuts;</p> <p>Pome Fruits: apples, pears, loquats, crabapples, oriental pears, quince;</p> <p>Stone Fruits: peaches, apricots, nectarines, plums, prunes and cherries)</p>	<p>Armyworms</p> <p>Bagworm</p> <p>Cankerworms (such as: spring, fall)</p> <p>Gypsy moth</p> <p>Leafrollers (such as: omnivorous, fruittree)</p> <p>Spruce budworms</p> <p>Webworms (such as: fall, mimosa)</p> <p>Tent caterpillars</p>	<p>0.63 to 0.94</p>	<p>See "PLANT TOLERANCE INFORMATION" and "APPLICATION" sections of this label.</p> <p>Apply when pests appear and thereafter as needed not to exceed 6 applications per site per season.</p>	<p>Do not use on fruit trees or vines that will bear edible fruit within one year.</p>

13 8 17

RECOMMENDED USES FOR NON-CROP AREAS

SITE	PEST	DOSAGE PER ACRE		SPECIFIC DIRECTIONS	USE RESTRICTIONS
		Pounds Active	Pounds LARVIN® BRAND DF WSP		
NON-CROP AREAS (Wastelands, Roadsides, Rights-of-Way, Grassways, Shelter belts, and Fencerows)	Armyworms	0.40 to 0.76	0.50	Treat non-crop areas where pests congregate to reduce infestation levels or to prevent movement into croplands. Apply when pests appear. Make additional applications as needed, not to exceed 4.56 lbs. of active ingredient per site per season.	Do not allow livestock to graze treated areas. Do not use treated plants as food or feed.
	Bagworm		to		
	Budworms	0.95			
	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 DF WSP Thiodicarb Insecticide/Ovicide 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>	Ixora	Calendula
Birch, (Weeping, White)	Aucuba	<i>Acalypha wilkesiana</i>	Jade Plant	Canna
Honeylocust, (Sunburst)	Azalea	<i>Aechmea lueddemanniana</i>	<i>Kalanchoe daigremontiana</i>	Chrysanthemum
Maple, (Sugar)	Boxwood	<i>Alternanthera versicolor</i>	<i>Maranta leuconeura erythroneura</i>	Coleus
Pine, (Scotch)	Camellia	Aluminum Plant	<i>Nephrolepis exaltata</i>	Geranium
Spruce, (Norway)	Elaeagnus	<i>Begonia semperflorens</i>	<i>Peperomia magnoliifolia</i>	Hosta
	Euonymus	Cactus	<i>Peperomia obtusifolia</i>	Impatiens
	Fatsia, (Japanese)	<i>Ceropegia woodii</i>	<i>Philodendron oxycardium</i>	Lantana
	Gardenia	<i>Chamaedorea elegans</i>	Piggyback Plant	Periwinkle
	Hawthorn	<i>Chlorophytum comosum</i>	<i>Pilea grandis</i>	Petunia
	Holly, (Japanese)	Dieffenbachia	Poinsettia	Salvia
	Holly, (Yaupon)	<i>Dracaena sanderana</i>	Pseuderanthemum	Snapdragon
	Juniper	Echeveria	<i>Rhoeo spathacea</i>	Verbena
	Lantana	Fern	<i>Sansevieria trifascia</i>	Violet
	Ligustrum	<i>Ficus diversifolia</i>	Senecio	
	Lilac	Gloxinia	<i>Spathiphyllum wallisii</i>	
	Mahonia	<i>Gynura sarmantosa</i>	<i>Syngonium podophyllum</i>	
	Osmanthus	<i>Hechtia tellandsioides</i>	Torenia	
	Pittosporum	Hoya	<i>Zebrina pendula</i>	
	Pyracantha	<i>Iboza riparia</i>	<i>Zygocactus truncata</i>	
	Rhododendron	Ivy, (Swedish)		
	Rose, (Hybrid Tea)			
	Yew			

Number of LARVIN® brand DF Water Soluble Paks to Use

Vegetable Crops

Acres	1.25 lb Paks (1.0 lb active)				2.50 lb Paks (2.0 lbs active)			
	Typical Use Rates in Pounds of Active Ingredient per Acre							
	0.25	0.50	0.75	1.00	0.25	0.50	0.75	1.00
Paks Needed for Given Acres								
4	1	2	3	4		1		2
8	2	4	6	8	1	2	3	4
12	3	6	9	12		3		6
16	4	8	12	16	2	4	6	8
20	5	10	15	20		5		10
24	6	12	18	24	3	6	9	12
28	7	14	21	28		7		14
32	8	16	24	32	4	8	12	16
36	9	18	27	36		9		18
40	10	20	30	40	5	10	15	20
60	15	30	45	60		15		30
80	20	40	60	80	10	20	30	40
100	25	50	75	100		25		50
120	30	60	90	120	15	30	45	60
140	35	70	105	140		35		70
160	40	80	120	160	20	40	60	80

Cotton and Soybeans

Acres	1.25 lb Paks (1.0 lb active)*							
	Typical Use Rates in Pounds of Active Ingredient per Acre							
	0.125	0.25	0.40	0.45	0.50	0.60	0.75	0.90
Paks Needed for Given Acres								
4		1			2		3	
8	1	2			4		6	
12		3			6		9	
16	2	4			8		12	
20		5	8	9	10	12	15	18
24	3	6			12		18	
28		7			14		21	
32	4	8			16		24	
36		9			18		27	
40	5	10	16	18	20	24	30	36
60		15	24	27	30	36	45	54
80	10	20	32	36	40	48	60	72
100		25	40	45	50	60	75	90
120	15	30	48	54	60	72	90	108
140		35	56	63	70	84	105	126
160	20	40	64	72	80	96	120	144

*For 2.5 lb paks (2.0 lb active), use one half of the number indicated for 1.25 lb paks above.

Estimate use requirements to the closest number of paks without exceeding labeled use rate for crop. Do not split paks.

Suggested methods for determination of number of paks needed:

1. **Use table above.** For example, to spray a 24 acre field at a rate of 0.75 pounds active would require 18 - 1.25 lb. paks or 9 - 2.5 lb. paks.
2. **Calculate number of paks.** To calculate number of packets, multiply the number of acres to be sprayed by the desired pounds active to be used per acre then divide by the active ingredient weight of the pak size you are using.

$$\text{Number of paks to be used} = \frac{(\text{acres to be sprayed} \times \text{desired pounds active per acre})}{(\text{pak size in pounds active})}$$

For example, to spray a 22 acre field at a rate of 0.50 pounds active using the 1.25 lb. paks (1.0 lb. active pak) would require $(22 \times 0.50) / 1.0$ or 11 paks. To spray the same field at the same rate using the larger 2.5 lb. paks (2.0 lb. active) would require $(22 \times 0.50) / 2.0$ or 5.5 paks. Because splitting of paks is not recommended, the applicator should use either 5 or 6 - 2.5 lb. paks depending on pest pressure and label limitations for the crop being sprayed. Do not exceed the labeled use rate for the crop being sprayed.

3. **Mix pak sizes.** For example, to spray a 20 acre field at a rate of 0.75 pounds active using the larger 2.5 lb. paks (2.0 lb. active) would require $(20 \times 0.75) / 2.0$ or 7.5 paks. Because splitting of paks is not recommended, the applicator could use 7 - 2.5 lb. pak plus 1 - 1.25 lb. pak.
- Estimate use requirements to the closest number of paks without exceeding labeled use rate for crop. Do not split paks.

Paks Needed for Given Acres

Acres	1.25 pound active pak				2.50 pound active pak			
	Use Rates (lb ai/A)							
	0.25	0.50	0.75	1.00	0.25	0.50	0.75	1.00
	Number of Paks to Use							
5	1	2	3	4		1		2
10	2	4	6	8	1	2	3	4
15	3	6	9	12		3		6
20	4	8	12	16	2	4	6	8
25	5	10	15	20		5		10
30	6	12	18	24	3	6	9	12
35	7	14	21	28		7		14
40	8	16	24	32	4	8	12	16
60	12	24	36	48	6	12	18	24
80	16	32	48	64	8	16	24	32
100	20	40	60	80	10	20	30	40
120	24	48	72	96	12	24	36	48
140	28	56	84	112	14	28	42	56

Estimate use requirements to the closest number of paks without exceeding labeled use rate for crop. Do not split paks.

Suggested methods for determination of number of paks needed:

1. **Use table above.** For example, to spray a 20 acre field at a rate of 0.75 pounds active would require 12 - 1.25 lb. active paks or 6 - 2.5 lb. active paks.
2. **Calculate number of paks.** Multiply the number of acres to be sprayed by the desired pounds active to be used per acre then divide by the active ingredient weight of the pak size you are using.

$$\text{Number of paks to be used} = \frac{(\text{acres to be sprayed} \times \text{desired pounds active per acre})}{(\text{pak size in pounds active})}$$

For example, to spray a 15 acre field at a rate of 0.75 pounds active using the 1.25 lb. active pak would require $(15 \times 0.75) / 1.25$ or 9 paks. To spray the same field at the same rate using the larger 2.5 lb. active paks would require $(15 \times 0.75) / 2.5$ or 4.5 paks. Because splitting of paks is not recommended, the applicator should use either 4 or 5 - 2.5 lb. paks depending on pest pressure and label limitations for the crop being sprayed. Do not exceed the labeled use rate for the crop being sprayed.

3. **Mix pak sizes.** For example, to spray a 25 acre field at a rate of 0.75 pounds active using the larger 2.5 lb. active paks would require $(25 \times 0.75) / 2.5$ or 7.5 paks. Because splitting of paks is not recommended, the applicator could use 7 - 2.5 lb active paks plus 1 - 1.25 lb active paks.

17 8 17

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and should be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Aventis CropScience. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: AVENTIS CROPSCIENCE MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Aventis CropScience is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. AVENTIS CROPSCIENCE DISCLAIMS ANY LIABILITY WHATSOEVER FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

LIMITATIONS OF LIABILITY: THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT AVENTIS CROPSCIENCE'S ELECTION, THE REPLACEMENT OF PRODUCT.

**Aventis CropScience USA LP
P.O. Box 12014, 2 T.W. Alexander Drive
Research Triangle Park, North Carolina 27709**

LARVIN is a registered trademark of the Aventis Group.
U.S. Patent No.: 4,382,957

LARVIN® brand DF WSP Thiodicarb Insecticide/Ovicide (PENDING) Submitted 8/14/02.