

US ENVIRONMENTAL PROTECTION AGENCY  
OFFICE OF PESTICIDES PROGRAMS  
REGISTRATION DIVISION (TS-767)  
WASHINGTON, DC 20460

NOTICE OF PESTICIDE:

☒ REGISTRATION  
☐ REREISTRATION

(Under the Federal Insecticide, Fungicide,  
and Rodenticide Act, as amended)

PM 12 8479-294 707 38  
EPA REGISTRATION NO.  
8770-294

DATE OF ISSUANCE

December 1, 1989

TERM OF ISSUANCE

Until Registration

NAME OF PESTICIDE PRODUCT

NAME AND ADDRESS OF REGISTRANT (Include ZIP )

NOTE: Changes in labeling formula differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above U.S. EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby Registered/Reregistered under the Federal Insecticide, Fungicide, and Rodenticide Act.

A copy of the labeling accepted in connection with this Registration/Reregistration is returned herewith.

Registration is in no way to be construed as an endorsement or approval of this product by this Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

☒ ATTACHMENT IS APPLICABLE

BEST AVAILABLE COPY

SIGNATURE OF APPROVING OFFICIAL

*James J. Gaudin*

DATE

12/1/89

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4. Submit five (5) copies of your final printed labeling before you release the product for shipment. Refer to the A-79 enclosure for a further description of final printed labeling.

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

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

Dennis H. Edwards, Jr.  
Product Manager (12)  
Insecticide-Rodenticide Branch  
Registration Division (H7595C)

Enclosures

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Riverside Trademark®

CARBARYL 90DF  
Sevin® Brand Carbaryl Insecticide

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ACTIVE INGREDIENT	
Carbaryl(1-naphthyl N-methylcarbamate).....	90.0%
INERT INGREDIENTS.....	10.0%
	Total 100.0%

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STOP - READ LABEL BEFORE USING.

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KEEP OUT OF REACH OF CHILDREN  
WARNING  
STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Immediately flush with plenty of water for at least 15 minutes.  
Call a physician.

IF SWALLOWED: Call a physician or Poison Control Center immediately. Drink 1  
or 2 glasses of water and induce vomiting by touching back of the throat with a  
finger. Never give anything by mouth to an unconscious person.

IF ON SKIN: Remove contaminated clothing and wash skin with soap and plenty of  
water. If irritation develops, get medical attention.

IF INHALED: Remove person to fresh air.

See left side panel for additional PRECAUTIONARY STATEMENTS.

EPA Reg. No. 9779-

EPA Est. No. 9779-AR-13

Manufactured For  
RIVERSIDE/TERRA CORPORATION  
Terra Centre, 600 Fourth Street, Sioux City, Iowa 51101  
Riverside Serves Agriculture. Agriculture Serves Everyone.

NET CONTENTS \_\_\_\_\_ LBS.

•Sevin is a registered trademark of Rhone Poulenc Ag Company.

ACCEPTED  
with COMMENTS  
in EPA Letter Dated

DEC 1 1982

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

9779-AR-13

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PRECAUTIONARY STATEMENTS  
WARNING  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Causes eye irritation. Do not get in eyes, on skin, or on clothing. May be fatal if swallowed. Avoid breathing spray mist. Wash thoroughly after handling. 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 use this product in commercial food areas of food handling establishments, restaurants, or other places where food is prepared or processed.

NOTE TO PHYSICIAN: Carbaryl is a moderate, reversible cholinesterase inhibitor. Atropine is antidotal. Do not use 2-PAM, opiates or cholinesterase inhibiting drugs.

ENVIRONMENTAL HAZARDS

This product is toxic to fish and extremely toxic to aquatic and estuarine invertebrates. Do not apply directly to water or wetlands, except under forest canopy and for use on rice. Discharge from rice fields may kill aquatic and estuarine invertebrates. Do not apply when weather conditions favor drift from areas treated. Do not apply where runoff is likely to occur. Do not contaminate water by cleaning of equipment or disposal of wastes.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Refer to product labeling for use restrictions to protect ENDANGERED SPECIES.

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DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

REENTRY STATEMENT

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.

## NOTICE TO CROP OWNERS

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. In case of accidental exposure follow the information given under STATEMENT OF PRACTICAL TREATMENT and have exposed person(s) see a physician. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is a reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: WARNING. Area treated with carbaryl on (date). Do not enter without appropriate protective clothing until sprays have dried. In case of accidental exposure, refer to the STATEMENT OF PRACTICAL TREATMENT on the label.

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### STORAGE AND DISPOSAL

DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE OR DISPOSAL.  
STORAGE

Store in a dry location away from foods, feeds, seeds, and other agricultural chemicals. Keep storage area locked when not in use. Keep container closed when not using. Do not allow water into container as this may cause deterioration of product. Handle in accordance with information given under PRECAUTIONARY STATEMENTS. In the event of spillage, scrape up and dispose of in accordance with information given under PESTICIDE DISPOSAL. Repackage and relabel useable product in a sound container. In case of fire or other emergency, report at once by toll-free telephone to 800-424-9300.

### DISPOSAL

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: 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 burned, stay out of smoke.

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### GENERAL INFORMATION

Carbaryl 90DF is a water dispersible granule for broad spectrum control of insects. It readily disperses in water to form a spray which may be applied by air, ground, or center pivot irrigation equipment.

PRE-HARVEST AND GRAZING USE INFORMATION AND LIMITATIONS: Tolerances established under the Federal Food, Drug and Cosmetic Act permit the sale of crops bearing probable carbaryl residues when this product is used in accordance with label directions. If used as directed, treated forage may be grazed or used as feed for dairy and meat animals without causing illegal residues in meat or milk. This product may be applied up to and including the day of grazing of forage crops. Applications may be made without removing livestock from area being treated.

**PLANT RESPONSE PRECAUTIONS:** To avoid possible injury to tender foliage, do not apply to wet foliage or when rain or high humidity is expected during the next two days. Carbaryl injures Boston Ivy, Virginia creeper and maidenhair fern. During early season, it may also injure Virginia and sand pines. Observe label instructions on apple thinning and on combinations with certain herbicides on rice and soybeans.

**SPRAY PREPARATION:** Remove oil, rust, scale, pesticide residues and other foreign matter from mix tanks and entire spray system. Flush with clean water. Fill tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of Carbaryl 90DF and then the remaining volume of water. Prepare only as much spray mixture as can be applied on the day of mixing. Maintain continuous agitation during mixing and application to assure a uniform suspension. Do not store spray mixtures for prolonged periods.

**COMPATIBILITY:** Carbaryl 90DF is compatible with a wide range of pesticides. It has been used without plant injury with most common insecticides, miticides, fungicides, nutrients, adjuvants, and petroleum oil as used on citrus. If compatibility of Carbaryl 90DF with another product and the resulting crop response are unknown, it should be tested on a small scale. Curdling, precipitation, greasing, layer formation or increased viscosity are symptoms of incompatibility. When preparing combination sprays, first add Carbaryl 90DF to water. Mix thoroughly and then add combination products to the mixture. Do not apply tank mix combinations unless your previous experience indicates the mixture is effective and will not result in application problems, excessive residues, or plant injury. Unstable under highly alkaline conditions. Not effective if used with alkaline material such as Bordeaux, lime-sulfur and casein lime spreaders.

**APPLICATION:** On all crops use sufficient gallonage to obtain thorough and uniform coverage. Calibrate spray equipment to deliver the required amount. Use 50 mesh slotted strainers in spray system and 25 mesh slotted strainers behind nozzles. To clean spray system after use, drain and flush with water.

**INSECT CONTROL:** Apply when insects or their damage appears. To maintain control, repeat at 7 to 14 day intervals or as necessary unless a shorter interval is specified below. Where a dosage range is indicated, use lower rate on young plants and early instars and higher rate on mature plants, advanced instars and adults. Thorough and uniform spray coverage is essential for effective control. Carbaryl 90DF does not control spider mites. If spider mites are a problem, use a registered miticide.

**CROP ROTATION:** Subsequent planting of food and feed crops in treated soil must be made with crops on this or other carbaryl labels.

#### CENTER PIVOT IRRIGATION APPLICATIONS FOR ALFALFA, CORN, AND POTATOES

Apply this product only through center pivot irrigation systems. Do not apply this product through any other type of irrigation system. Do not apply when wind speed favors drift beyond the area intended for treatment.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

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 of time. Application of more than label recommended quantities of irrigation water per acre may result in decreased product performance. Allow sufficient time for pesticides to be flushed through all lines and all nozzles before turning off irrigation water.

#### DIRECTIONS FOR USE THROUGH CENTER PIVOT IRRIGATION SYSTEMS

**SPRAY PREPARATION AND APPLICATION INSTRUCTIONS:** Refer to preceding text under **GENERAL INFORMATION**. Suspension concentrations of 1-1/8 to 1-1/4 pounds of this product per 1 to 4 gallons of water are recommended. Set sprinkler to deliver 0.1 to 0.3 inches of water per acre. Start sprinkler and then uniformly inject the suspension of this product into the irrigation water line so as to deliver the desired rate per acre. The suspension of this product should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing.

**Note:** When treatment with this product 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.

#### SAFETY DEVICES

A. The systems designated above 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. All pesticide injection pipelines 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 shut down.

B. 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.

#### SYSTEMS CONNECTED TO PUBLIC WATER SOURCES

Public water system means a system for the provision to the public of piped water for human consumption if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

For additional instructions on SAFETY DEVICES, refer to sections A. and B. above.



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## FORAGE, FIELD AND VEGETABLE CROPS

Apply in sufficient spray volume to obtain thorough coverage. To prepare small volumes of spray, use 1 1/4 tablespoons of CARBARYL 90DF per gallon of water where rates of 1 1/8 pounds per acre or 1 1/8 pounds per 100 gallons are indicated in the table below.

CROP	INSECT	POUNDS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECI DIRECT
All Forage, Field and Vegetable Crops In This Section	Grasshoppers	5/8 to 1-2/3	See specific Forage, Field or Vegetable Crop	Use 5/8 to nymphs on or sparse in wastela land, diti borders. 1-2/3 lbs. grasshoppe tions to d

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CROP	INSECT	POUNDS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Alfalfa* Clovers  *Refer to CENTER PIVOT IRRIGATION APPLICATIONS.	Blister beetles, Mexican bean beetle	5/8 to 1 1/8	7 (Alfalfa) 0 (Clovers)	Observe plant response precautions.
	Alfalfa cacer- pillar, Bean leaf beetle, Cucumber beetles, Green cloverworm, Japanese beetle, Leafhoppers, Three cornered alfalfa hopper, Thrips, Velvet- bean caterpillar	1 1/8		For alfalfa weevil larvae if pretreatment damage is extensive, cut alfalfa and treat the stubble. Use higher rate in areas east of the Rocky Mtns. On dense growth use 25 to 40 gallons per acre with ground equipment to ensure adequate coverage.
	Alfalfa weevil larvae, Armyworm, Cloverhead weevil, Corn earworm, Cutworms, Egyptian alfalfa weevil larvae, Essex skipper, European alfalfa beetle, Fall armyworm, Lygus bugs, Stink bugs, Webworms, Yellow- striped armyworm	1 1/8 to 1 2/3		
Asparagus	Asparagus beetle	1 1/8 to 2 1/4	1	Treat ferns or brush growth. Do not treat more than once every 3 days.
	Apache cicada Asparagus beetle	2 1/4 to 4 1/2	Post harvest applica- tion only.	

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CROP	INSECT	POUNDS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Beans (including blackeyed peas, cowpeas, crowder or southern peas, dry beans, green beans, lima beans, navy beans and snap beans)	Blister beetles, Mexican bean beetle	5/8 to 1-1/8	0 3 (cowpeas)	Observe plant response precautions.
	Alfalfa cater- pillar, Bean leaf beetle, Cucumber beetles, Flea beetles, Green cloverworm, Japanese beetle, Leafhoppers, Three cornered alfalfa hopper, Thrips, Velvet- bean caterpillar, Western bean cut- worm	1-1/8		
	Armyworm, Corn earworm, Cutworms, European corn borer, Fall army- worm, Stink bugs, Tarnished plant bug, Webworms	1-1/8 to 1-2/3		
	Cowpea curculio	2-1/4		
	Corn earworm, Lima bean pod borer, Lygus bugs, Stink bugs	2-1/4		CALIFORNIA ONLY
Cabbage, Broccoli, Brussels Sprout, Cauliflower, Kohlrabi,	Flea beetles, Harlequin bug	5/8 to 1-1/8	3	
	Armyworm, Corn earworm, Fall armyworm, Imported Cabbageworm	1-1/8 to 2-1/4		

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CROP	INSECT	POUNDS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Chinese cabbage, Collards, Hanover salad, Horseradish, Kale, Mustard greens, Radishes, Rutabagas, Turnips	Flea beetles, Harlequin bug leafhopper	5/8 to 1-1/8	3 (horseradish, radishes, rutabagas and turnip roots)	
	Aster leafhopper	1-1/8 to 1-2/3	14 (Chinese cabbage, collards, Hanover salad, kale, mustard greens, and turnip tops)	
	Armyworm, Corn earworm, Fall armyworm, Imported cabbage- worm, Stink bugs, Tarnished plant bug	1-1/8 to 2-1/4		
Carrots, Parsnips, Parsley	Flea beetles, Leafhoppers	5/8 to 1-1/8	0 (carrots)	Treat on a 5 to 7 day schedule.
	Aster leafhopper, Lygus bugs, Spittlebugs	1-1/8 to 1-2/3	3 (parsnips)	
	Armyworm, Corn earworm, Fall armyworm, Stink bugs, Tarnished plant bug	1-1/8 to 2-1/4	14 (parsley)	
Corn* (field, sweet, pop)	Armyworm, Corn earworm, Corn rootworm adults, European corn borer, Fall army- worm, Flea beetles, Japanese beetle, Sap beetles, South- western corn borer, Leafhoppers	1-1/8 to 2-1/4	0	OBSERVE BEE CAUTION.  For insects attacking silks and ears apply at 1 to 6 day intervals starting when first silks begin to dry. For larvae in whorl and foliage feeders, apply as necessary. Optimum timing and good coverage are essential for effective control.
	Western bean cut- worm	2-1/4	0	Treat when infestation averages 15% and at 90% to 100% tassel emergence. Treatment after 100% silk emergence will reduce effectiveness.

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CROP	INSECT	POUNDS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Corn (field, sweet, pop) - (Cont.) *Refer to CENTER PIVOT IRRIGATION APPLICATIONS	Cutworms	2-1/4 to 7-1/4	0	For broadcast appli- cation, use 7-1/4 pounds in at least 20 gallons (ground) or 5 gallons (air) of water per acre.
Cotton	Cotton fleahopper, Cotton leafworm, Flea beetles, Striped blister, beetle, Thrips	5/8 to 1-1/8	7	Early season insect control.,
	Boll weevil, Bollworms, Cotton leafperforator, Fall armyworm, Leafrollers, Leaf- hoppers, Tarnished plant bug, Yellow striped armyworm (cotton cutworm)	1-1/8 to 2-1/4	7	Treat on a 5 to 7 day schedule for as long as control is necessary. Mid and late season insect control. May be applied after bolls open.
	Lygus bugs	1-1/8 to 2-1/4	7	For light to moderate population in western irrigated cotton.
	Pink bollworm	1-2/3 to 2-3/4	7	Aphid populations will be suppressed by repeated applications of this insecticide.
	Stink bugs, Salt- marsh caterpillar	2-1/4		

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CROP	INSECT	POUNDS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Cucumber, Melons, Pumpkin, Squash	Pickleworm, Melonworm	5/8 to 1-1/8	0	Observe plant response precautions.
	Cucumber beetles, Flea beetles, Leafhoppers, Squash bugs	1-1/8		Avoid excessive appli- cations.
Dandelion, Endive (Escarole), Lettuce, Salsify	Flea beetles, Harlequin bug, Leafhoppers	5/8 to 1-1/8	3 (head lettuce & salsify roots)	Observe plant response precautions.
	Aster leafhopper, Lygus bugs, Spittlebugs	5/8 to 1-1/8	14 (dandelion, endive, leaf lettuce & salsify tops)	Treat on a 5 to 7 day schedule after heads begin to form.
	Armyworm, Corn earworm, Fall armyworm, Imported cabbageworm, Stink bugs, Tarnished plantbug	1-1/8 to 2-1/4		

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CROP	INSECT	POUNDS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Forage Grasses, Pasture	Armyworm, Black grass bugs, Chinch bugs, Essex skipper, Fall armyworm, Range caterpillars, Range crane fly, Striped grass looper Thrips	1-1/8 to 1-2/3	0 (aerial application) 14 (ground application)	To control thrips in grasses grown for seed, use high spray pressure to improve penetration into boot.
	White grubs (green June beetle)	1-2/3 to 2-1/4		
Garden beet, Spinach, Swiss char'	Flea beetles, Harlequin bug, Leafhoppers	5/8 to 1-1/8	3 (garden beet roots)	Treat on a 5 to 7 day schedule.
	Aster leafhopper	1-1/8 to 1-2/3	14 (garden beet tops, Spinach, Swiss chard)	
	Armyworm, Corn earworm, Fall armyworm, Stink bugs, Tarnished plant bug	1-1/8 to 2-1/4		
Okra	Corn earworm, Stink bugs	1-1/8 to 2-1/4	0	Treat on a 5 to 7 day schedule.
Peanuts	Blister beetles, Mexican bean beetle	5/8 to 1-1/8	0	Observe plant response precautions.
	Alfalfa cater- pillar, Bean leaf beetle, Cucumber beetles, Green cloverworm, Japanese beetle, Leafhoppers, Red- necked peanutworm Three cornered alfalfa hopper, Thrips, Velvet- bean caterpillar, (cont.)	1-1/8		

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CROP	INSECT	QUARTS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Peanuts (Cont.)	Armyworm, Corn earworm, Fall armyworm, Stink bugs, Webworms	1-1/8 to 1-2/3	0	Observe plant response precautions.
	Whitefringed beetle adults, Cutworms	2-1/4		
Peas	Colorado potato beetle, Leaf- hoppers	1-1/8	3	
	Armyworms	1-1/8 to 1-2/3		
	Alfalfa cater- pillar, Cutworms, Pea leaf weevil, Pea weevil, Yellow striped armyworm	1-2/3		
	Alfalfa looper	2-3/4	0	WASHINGTON STATE ONLY
Potato* Tomato Eggplant Pepper	Colorado potato beetle, Flea beetles, Leaf- hoppers	5/8 to 1-1/8	0	
	European corn borer, Fall army- worm, Lace bugs, Stink bugs, Tarnished plant bug, Tomato fruitworm, Tomato hornworm, Tomato pinworm	1-1/8 to 2-1/4		
	Cutworms	2-1/4		

\*Refer to  
CENTER PIVOT  
IRRIGATION  
APPLICATIONS



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CROP	INSECT	QUARTS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Rice	Armyworm, Chinch bugs, Fall armyworm, Stink bugs	1-1/8 to 1-2/3	14	Do not apply propanil herbicide within 15 days before or after CARBARYL 90DF application or plant injury will result (Mississippi Delta & Texas). Do not use on rice fields in which crayfish and/or catfish farming is included in the cultural practice.
	Armyworm, Leafhoppers, Tadpole shrimp	2-1/4		CALIFORNIA ONLY. For optimum tadpole shrimp control apply to water when pest first appears.
Sorghums (milo, grain sorghum, sweet sorghum, and hybrids)	Armyworm, Chinch bugs, Corn earworm, Fall armyworm, Stink bugs, Webworms	1-1/8 to 2-1/4	21 (grain)  0 (forage)	Direct spray into forming heads for optimum insect control.
	Sorghum midge, Southwestern corn borer	1-2/3		Treat for sorghum midge when 25 to 30 percent of heads have emerged from boot and are in bloom. Repeat application 3 to 5 days later if adults are still active. A third application may be necessary in late planted sorghum or if midge are abundant.
	Cutworms	2-1/4		

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CROP	INSECT	POUNDS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Soybeans	Bean leaf beetle, Cucumber beetles, Green cloverworm, Mexican bean beetle, Velvet- bean caterpillar	5/8	0	Do not apply a combina- tion of CARBARYL 90DF and 2,4-DB herbicides to soybeans. Use lower rate for light to moder- ate populations. To control heavy infestat- ions, use higher rate.
	Corn earworm	5/8 to 7/8		
	Blister beetles, Grape colaspis, Mexican bean beetle	5/8 to 1-1/8		
	Alfalfa cater- pillar, Bean leaf beetle, Cucumber beetles, Green cloverworm, Japanese beetle, Leafhoppers, Three cornered alfalfa hopper, Thrips, Velvet- bean caterpillar	1-1/8		
	Armyworm, Corn earworm, Cutworms Fall armyworm, Stink bugs, Web- worms	1-1/8 to 1-2/3		
	Painted lady (Thistle cater- pillar), Salt- marsh caterpillar Yellow striped armyworm	2-1/4 to 2-3/4		
Sugar beets	Armyworm, Beet leaf beetle, Fall armyworm, Flea beetles, Leaf- hoppers, Webworms	1-1/8 to 1-2/3	14	
	Cutworms	1-2/3		

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CROP	INSECT	POUNDS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Tobacco	Tobacco Flea beetle	1-1/8 lbs./50 gal., or 26-2/3 lbs./100 square yards	0	IN PLANT BEDS To prevent injury, avoid excessive applications.
	Green June beetle grubs	5/8 lbs./100 gallons		Apply only to areas that larvae have uprooted by sprinkling as a drench with 50 to 100 gallons per 100 square yards.
	Budworms, Fall armyworms, Flea beetles, Horn- worms, Japanese beetle, June beetle, Suckfly	1-1/8 to 2-1/4		IN FIELDS Use lower rate on young plants (up to knee height). Use at least 10 gallons of prepared spray per acre. Begin treatments when worms are small. If late season appli- cations are necessary, allow three days before priming or cutting.

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# TREE FRUIT AND NUT CROPS

For dilute sprays apply the specified dosage per 100 gallons of water. For concentrate and aerial sprays, increase the concentration of CARBARYL 90DF in the spray mixture to apply an amount per acre equivalent to that in a dilute spray. The optimum spray gallonage will depend on tree size, density and stage of growth. Typical spray gallonages per acre range from 200-300 gallons for dilute sprays; 30-100 gallons for concentrate sprays and 10-25 gallons for aerial sprays. Do not exceed maximum label rate per acre per application.

CROP	POUNDS OF CARBARYL 90DF/100 GAL	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
APPLE THINNING			Apply 1 full coverage dilute spray between 10 and 25 days after full bloom. If factors such as tree age, variety, nutrition, previous crop pruning, bloom and degree of set favor excessive fruit thinning with CARBARYL 90DF, exercise caution to avoid possible yield reduction.
Apples only	1/3 to 5/8	1	For easily thinned varieties including Cortland, Grimes, Jonathan, McIntosh, Orleans, Rome Beauty, Puritan, Red Delicious, Winesap, Yellow Newton.
	5/8 to 1-1/8	1	For difficult to thin varieties including Baldwin, Ben Davis, Duchess, Early McIntosh, Golden Delicious, Lady Apple, Northern Spy, Rhode Island Greening, Steele Red, Turley, Wealthy, Yellow Transparent, and York Imperial.

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CROP	INSECT	POUNDS OF CARBARYL 90DF/100 GALS.	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Almond	Peach twig borer, San Jose scale, Fruittree leaf- roller	1-1/8	28	Apply in popcorn or petal fall stages and again when the May brood of the peach twig borer begins to hatch or thereafter as needed.
	Navel orangeworm			Time early and mid- season applications to correspond to moth flight peaks. Make a late season application at initiation of hull split or up to 10% hull split. Do not apply more than 5-1/2 pounds per acre.
Apples Pears	Apple aphid, Apple rust mite, Apple sucker, Bagworms, California pear- slug(pear sawfly), Codling moth, Eye- spotted bud moth, Green fruitworm, Lecanium scales, Lesser appleworm, Lygus bugs, Orange tortrix, Oyster- shell scale, Pear leaf blister mite, Pear psylla, Pear rust mite, San Jose scale, Tenti- form leafminers, Woolly apple aphid	7/8 to 1-1/8	1	WEST OF THE ROCKY MTS.  To avoid undesired apple thinning, delay u. : until at least 30 days after full bloom.  For psylla control apply when eggs hatch or young nymphs are present.

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CROP	INSECT	POUNDS OF CARBARYL 90DF/100 GALS.	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Apples, Pears (Cont.)	Apple mealybug, Apple aphid, Codling moth, White apple leaf- hopper	5/8	1	<p>EAST OF ROCKY MTS.</p> <p>To avoid undesired apple thinning, delay use until at least 30 days after full bloom.</p> <p>For optimum scale control apply when crawlers are present.</p>
	Apple maggot, Apple rust mite, Bagworms, Eastern tent caterpillar, European apple sawfly, Eyespotted bud moth, Forbes scale, Fruit tree leafroller, Green fruitworm, Japan- ese beetle, Lecanium scales, Lesser appleworm, Oystershell scale, Pear psylla, Pear leaf blister mite, Pear rust mite, Periodical cicada, Plum curculio, Red- banded leafroller, Rosy apple aphid, San Jose scale, Tarnished plant bug, Tentiform leafminers, Woolly apple aphid, Yellowheaded fire- worm	1-1/8		

23/33

CROP	INSECT	POUNDS OF CARBARYL 90DF/100 GALS.	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Citrus Fruit (such as grapefruit, lemons, limes, oranges, tangelos, tangerines, citrus citron, kumquats and hybrids)	Avocado leaf-roller, California orangedog, Citrus cutworm, Citrus root weevil, Fruit-tree leafroller, Orange tortrix, Western tussock moth, West Indian sugarcane borer (adults)	1-1/8	5	Do not apply more than 22-1/4 lbs. of CARBARYL 90DF per acre per application. Do not apply less than 10 gallons of dilute spray mixture per mature tree. May be mixed with petroleum oils commonly used on citrus.
	Black scale, Brown soft scale, California red scale, Citricola scale, Citrus snow scale, Yellow scale	7/8 to 1-1/8		
Filbert	Filbert aphid, Filbert leafroller, Filbertworm	1-1/8	0	Apply when leafroller eggs are hatching. Repeat on first appearance of adult filbert moths and again 3 to 4 weeks later.
Olives	Olive scale	7/8 to 1-1/8	0	For optimum scale control, add 1-1/2 gallons of summer oil and apply mixture when crawlers are present. Do not exceed 2 applications per year. Do not apply more than 16-2/3 lbs. of CARBARYL 90DF per acre per application.

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CROP	INSECT	POUNDS OF CARBARYL 90DF/100 GALS.	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Peaches, Apricots, Nectarines	Apple pandemis, Codling moth, Cucumber beetle, European earwig, Fruittree leaf- roller, Japanese beetle, June beetle, Lecanium scales, Lesser peachtree borer, Olive scale, Orange tortrix, Oriental fruit moth, Peach twig borer, Periodical cicada, Plum cur- culio, Redbanded leafroller, San Jose scale, Tar- nished plant bug, Tussock moth, Variegated leaf- roller	1-1/8	1 (peaches)  3 (apricots & nectarines)	Do not apply more than 6-2/3 lbs. of CARBARYL 90DF per acre appli- cation to apricots. For optimum scale control apply when crawlers are present. Spray limbs and trunks thoroughly, weekly during moth flight.
Pecans	Black margined aphid, Fall web- worm, Hickory shuckworm, Lesser we' worm, Pecan lear phylloxera, Pecan nut case- bearer, Pecan spittlebug, Pecan weevil, Twig girdler, Walnut caterpillar	1-1/8 to 2-3/4	0	Do not apply more than 8 pounds of CARBARYL 90DF per acre per application.



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CROP	INSECT	POUNDS OF CARBARYL 90DF/100 GALS.	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Plums, Prunes, Cherries	Black cherry aphid, Brown soft scale, Cherry fruitworm, Cherry maggot, European earwig, Eyespotted bud- moth, Forbes scale, Fruit tree leaf- roller, Green fruitworm, Japan- ese beetle, Lecanium scales, Lesser peach tree borer, Mealy plum aphid, Oystershell scale, Peach twig borer, Plum cur- culio, Prune leaf- hopper, Redbanded leafroller, Rose chafer, San Jose scale, Variegated leafroller	1-1/8	1	Do not apply more than 6-2/3 lbs. of CARBARYL 90DF per acre per appli- cation. For optimum control, apply when crawlers are present. For lesser peach tree borer control, spray limbs and tree trunks thoroughly, weekly during moth flight.
	Codling moth, Eastern tent caterpillar, Orange tortrix, Tussock moth	7/8		

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CROP	INSECT	POUNDS OF CARBARYL 90DF/100 GALS.	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Walnut	Calico scale, European fruit lecanium, Filbert- worm, Fruittree leafroller, Frosted scale, Codling moth	5/8	0	Apply 5-1/2 pounds of CARBARYL 90DF spray per acre for mature trees. For codling moth apply first spray when average cross sectional diameters of developing nuts are 1/2 to 3/4 inch. Repeat during middle or late June as needed.
	European earwig	2-1/4		Spray tree trunks to point of run-off.

## SMALL FRUIT CROPS

Recommended dosages refer to quarts of CARBARYL 90DF per acre. The optimum spray gallonage will depend on plant size, density and stage of growth. Typical spray gallonages per acre range from 100-300 gallons for dilute sprays, 30-100 gallons for concentrate sprays, and 10-25 gallons for aerial sprays. Do not exceed maximum label rate per acre per application.

CROP	INSECT	POUNDS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Blackberries, Raspberries, Dewberries (includ- ing boysenberries and loganberries)	European raspberry aphid, Japanese beetle, Leafhoppers, Leafrollers, Rose chafer, Snowy tree cricket	1-1/8 to 2-1/4	7	
	Omnivorous leaf- roller, Raspberry sawfly	2-1/4		CALIFORNIA ONLY
Blueberries	Blueberry maggot, Cherry fruitworm, Cranberry fruit- worm, European fruit lecanium, Japanese beetle	1-2/3	0	Apply 3 weeks before harvest and repeat as necessary.

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CROP	INSECT	POUNDS OF CARBARYL 90DF/ACRE	PRE-HARVEST INTERVAL (DAYS)	SPECIFIC DIRECTIONS
Cranberries	Cutworms, Cranberry fireworms, Cranberry fruitworms, Japanese beetle, Leafhopper, Rose chafer	1-2/3 to 3-1/3	1	Apply in late bloom and as needed at 7 to 10 day intervals.
Grapes	European fruit lecanium, Grape leaffolder, Grape leafhopper, Western grapeleaf skeletonizer, Western yellow-striped armyworm	1-1/8 to 2-1/4	7	Apply before first brood leaffolder larvae emerge from rolls.
	Cutworms, Eight-spotted forester, Grape berry moth, Japanese beetle, June beetle, Orange tortrix, Omnivorous leafroller, Redbanded leafroller, Salt-marsh caterpillar	2-1/4		
Strawberries	Flea beetle, Meadow spittlebug, Omnivorous leaf-tier (strawberry fruitworm), Strawberry leafroller, Strawberry weevil	1-1/8 to 2-1/4	1	CARBARYL 90DF may injure Early Dawn and Sunrise varieties on the Delmarva Peninsula.

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## TREES AND ORNAMENTALS

For dilute spray ground applications to trees (including shade trees, shelter belts, forests, plantations, parks and recreational areas), ornamentals, woody plants and shrubs, 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. To prepare small volumes of spray, use 1-1/4 tablespoons of CARBAPYL 90DF per gallon of water, where rates of 1-1/8 pounds are indicated.

For aerial applications to forest trees (including shade trees, shelter belts, plantations, parks and recreational areas) and commercially grown ornamentals, woody plants and shrubs, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. Avoid direct application to lakes, streams, and ponds.

(Continued on following page.)

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CROPS	INSECTS	POUNDS OF CARBARYL 90DF	SPECIFIC DIRECTIONS
<p><b>GROUND APPLICATION:</b> Trees*, Ornamentals (including roses, flowers and other herbaceous plants) Woody plants and Shrubs</p> <p><b>AERIAL APPLICATION:</b> Forest trees* and commercially grown ornamentals (including roses, flowers and other herbaceous plants) Woody plants and Shrubs</p> <p>*(including shade belts, forests, plantations, parks and recreational areas)</p>	<p>Ant, Apple aphid, Armyworm, Azalea leafminer, Bagworm, Birch leafminer, Blister beetle, Boxelder bug, Boxweed leafminer, Brown tail moth, Cankerworm, Catalpa sphinx, Chigger, Cooley spruce gall aphid, Cutworm, Cypress tip moth, Douglas fir tussock moth, Eastern spruce gall aphid, Elm leaf aphid, Elm leaf beetle, Elm spanworm, Eriophyid mite, European pine shoot moth, Fall armyworm, Flea beetle, Fuller rose beetle, Gall midge, Gall wasp, Green striped mapleworm, Grasshopper, Gypsy moth, Hackberry nipple gall maker, Holly bud moth, Holly leafminer, Jackpine budworm, Japanese beetle, Jeffrey pine needleminer, June beetle, Lace bug, Leafhopper, Leaf-roller, Locust borer, Mealy bug, Mimosa webworm, Nantucket pine tip moth, Oak leafminer, Oak leaf skeletonizer, Oakworm complex, Oleander caterpillar, Olive ash borer, Orange striped oakworm, Orange tortrix, Periodical cicada, Pine sawfly, Pine spittlebug, Pitch pine tip moth, Plant bug, Poinsettia hornworm, Psyllid, Puss caterpillar, Redhumped oakworm, Rose aphid, Rose chafer, Rose slug, Saddled prominent sawfly (exposed), Scale insect, Sowbug, Spiny elm caterpillar Springtail, Spruce budworm, Spruce needleminer, Subtropical pine tip moth, Tent caterpillar, Thorn bug, Thrip (exposed), Western spruce budworm, Willow leaf beetle, Yellow poplar weevil</p>	1-1/4	<p>Observe plant response precautions.</p> <p>Apply dilute sprays to obtain thorough coverage of upper and lower leaf surfaces. To control scale insects, treat trunks, stems and twigs in addition to plant foliage. For optimum worm control, treat when in early instars. Addition of a sticker may improve residual control.</p>
	<p>Ips engraver beetle Mountain pine beetle Rounded pine beetle Western pine beetle</p>	22-1/4	<p>Effective as a preventive treatment only. Repeat annually as required to prevent beetle attacks.</p> <p>Apply 1 gallon of spray per 50 square feet of bark in late May to early July, or prior to beetle attack.</p> <p>Treat tree trunks from ground level up, until trunk diameter is less than 5 inches.</p>

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# LAWNS AND RECREATIONAL AREAS

CROPS	INSECT	SPECIFIC DIRECTIONS
Lawns and Recreational Areas (including turf, golf courses, and parks)	Ant, Armyworm, Bluegrass billbug, Centipede, Chigger, Cutworm, Earwig, Essex skipper, European chaffer, Fall armyworm, Fiery skipper, Flea, Grasshopper, June beetle, Leafhopper, Lucerne moth, Millipede, Mosquito, Sod webworm (lawn moth), Sowbug, Springtail, Tick, Yellowstripped armyworm	Use 1-1/8 pounds of CARBARYL 90DF in 150 to 200 gallons of spray mixture per 5,000 square feet of established lawn, recreational area, roadway or path border. For best results, mow lawn and apply after wetting or rain to insure good penetration of turf. Garden hose or pressure applications may be used. Repeat 2 to 3 weeks later if necessary.
	Chinch bug, White grub	Use 1-2/3 pounds of CARBARYL 90DF in 150 to 200 gallons of spray per 5,000 square feet.

# MOSQUITO CONTROL

31/33 For dilu. : spray ground applications to trees (including shade trees, shelter belts, forests, plantations, parks and recreational areas), ornamentals, woody plants and shrubs, 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 aeria. applications to forest trees (including shade trees, shelter belts, plantations, parks and recreational areas) and commercially grown ornamentals, woody plants and shrubs, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. Avoid direct application to lakes, streams and ponds.

CROP	POUNDS OF CARBARYL 90DF	SPECIFIC DIRECTIONS
Pastures, Rangelands, Yards, Parks, Recreational Areas, Logging Camps, Military Posts and Adjacent Forested Lands or Wastelands	1/3 to 1-1/8	Treat shubbery and areas where adult mosquitoes congregate. Treat when adult mosquitoes are active in early mornings or late evening. Repeat at 7 to 10 day intervals. Use 1/3 to 5/8 lb. per 100 gallons in mistblower, 5/8 to 1-1/8 lbs. per acre in aerial sprays and 1-1/8 lbs. per acre in low pressure ground sprayers. Do not use where shrimp and crabs are important resources. Observe bee caution.
	27-3/4	For residual control in subtropical regions, apply 4 gallons of prepared spray per 2000 square feet of surface area. Repeat in 3 to 6 months or when necessary.

## PEST CONTROL AROUND BUILDINGS

INSECT	POUNDS OF CARBARYL 90DF/ 100 GAL.	SPECIFIC DIRECTIONS
Ants, Cockroaches	22-1/4	For external use around buildings only. Do not treat animals. Apply as a coarse wet spray or with a paint brush to outdoor sleeping quarters of pets, outside perimeter of dwellings and other areas where insects tend to congregate. Do not use where edible products are exposed, being prepared, processed or served. Avoid application to surfaces where visible spray residues are objectionable.
Brown dog tick, Earwig, Flea, Millipede, Silverfish	11-1/4	

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## POULTRY ROOSTS AND BUILDINGS ONLY

POULTRY QUARTERS	POUNDS OF CARBARYL 90DF/ 100 GAL.	SPECIFIC DIRECTIONS
Bed bug, Chicken mite, Flea, Lice, Northern fowl mite	4-1/2	DO NOT TREAT POULTRY OR GAME BIRDS. Apply 1 to 2 gallons of spray mixture per 1,000 square feet of wall, litter or roost surface. Force spray into cracks. Repeat as needed. Avoid contamination of nests, eggs and feeding and watering troughs. Ventilate while spraying. Do not treat premises within 7 days of slaughter.
Fowl tick	17-3/4	
Lesser mealworm	55-1/2	Apply 2 gallons of spray mixture per 1,000 square feet of floor space or litter surface. Repeat as needed. Ventilate while spraying. Do not treat premises within 7 days of slaughter.



