



JAN 14 1994

Larry R. Hodges  
RHONE-POULENC AG COMPANY  
P.O. Box 12014  
Research Triangle Park, NC 27709

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Subject: Label Amendment Submission of 07/22/93 in Response to PR Notice 93-7  
EPA Reg. No. 264-314  
SEVIN BRAND 50W CARBARYL INSECTICIDE

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

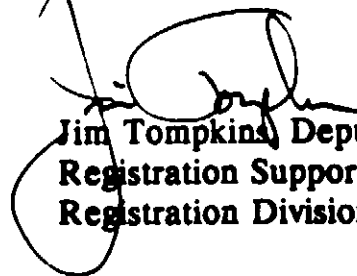
**Submit the final printed labeling via the U.S. Postal Service to:**

**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**

# SEVIN<sup>®</sup> Brand 50W Carbaryl Insecticide

In EPA Letter Dated 9 of 16

JAN 14 1994

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 264-314

**FOR AGRICULTURAL OR COMMERCIAL USE ONLY**

**NOT FOR RESIDENTIAL USE**

**ACTIVE INGREDIENT:**

Carbaryl (1-naphthyl N-methylcarbamate).....50% by wt.

**INERT INGREDIENTS:** .....50% by wt.

E.P.A. Reg. No. 264-314

E.P.A. Est. No. 477-MD-01

## 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

Carbaryl is an N-Methyl Carbamate Insecticide.

**IF SWALLOWED:** Never give anything by mouth to an unconscious or convulsing person. If conscious and not convulsing, drink 1 to 2 glasses of water and induce vomiting by touching the back of the throat with finger.

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

**IF ON SKIN:** Wash thoroughly with soap and water.

**IF INHALED:** Move from contaminated atmosphere and call a physician.

**GENERAL**

Contact a physician immediately in all cases of suspected poisoning. Transport 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.

**ANTIDOTE STATEMENT**

**ATROPINE SULFATE IS HIGHLY EFFECTIVE AS AN ANTIDOTE.** Narcotics and other sedatives should not be used. Further, drugs like 2-PAM (pyridine-2-aldoxime methiodide) are not recommended. See NOTE TO PHYSICIAN below.

**NOTE TO PHYSICIAN**

Carbaryl is 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. Carbaryl 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 overatropinization. Mild cases may be given 1 to 2 mg intramuscularly every 10 minutes until full atropinization has been achieved and repeated thereafter whenever symptoms reappear. Severe cases should be given 2 to 4 mg intravenously every 10 minutes until fully atropinized, then intramuscularly every 30 to 60 minutes, 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.

To aid in confirmation of a diagnosis, urine samples should be obtained within 24 hours of exposure and immediately frozen.

Consultation on diagnosis therapy and analysis can be obtained at all hours by calling the Rhône-Poulenc emergency phone number 1-800-344-7577.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS (& DOMESTIC ANIMALS)

#### WARNING

**MAY BE FATAL IF SWALLOWED. MAY BE HARMFUL IF INHALED.** Avoid breathing of dust and spray mist. Do not take internally. Avoid contact with eyes, skin or clothing. Keep out of reach of children and domestic animals.

**OVEREXPOSURE MAY CAUSE:** Salivation, watery eyes, pinpoint eye pupils, blurred vision, muscle tremors, difficult breathing, excessive sweating, abdominal cramps, nausea, vomiting, diarrhea, weakness, headache. **IN SEVERE CASES CONVULSION, UNCONSCIOUSNESS AND RESPIRATORY FAILURE MAY OCCUR. SIGNS AND SYMPTOMS OF OVEREXPOSURE OCCUR RAPIDLY FOLLOWING EXPOSURE TO THIS PRODUCT.**

**BEST AVAILABLE COPY**

Always wear appropriate eye protection, including eye wash stations, and wearing Personal Protective Equipment (PPE). For such instructions for washing 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 you feel you have been sprayed. Then wash thoroughly and put on clean clothing.

### ENVIRONMENTAL HAZARDS

This product is extremely toxic to aquatic and estuarine invertebrates. 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. Discharge from rice fields may kill aquatic and estuarine invertebrates. Do not contaminate water by cleaning equipment or disposal of wastes. Do not apply when weather conditions favor drift from area treated.

### BEE CAUTION: MAY KILL HONEYBEES IN SUBSTANTIAL NUMBERS.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops and weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. Contact your Cooperative Agricultural Extension Service or your local Rhône-Poulenc Ag Company representative for further information.

### DIRECTIONS FOR USE

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

Read the entire label before using this product.

Strictly observe label directions and cautions. Do not use on any crop not listed on this label or supplemental labeling as any residues remaining may be illegal or harmful.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

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

Do not 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.

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.

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

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.

Keep unprotected persons out of treated areas until sprays have dried.

### STORAGE AND DISPOSAL

#### STORAGE

Store unused product in original container only, in cool, dry areas out of reach of children and animals. Do not store in areas where temperatures frequently exceed 100° F.

If container is damaged, before cleaning up, put on Personal Protective Equipment.

#### PESTICIDE DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. 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 bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If bag is burned, stay out of smoke.

**BEST AVAILABLE COPY**

**SPRAY PREPARATION:** First prepare a suspension of SEVIN® brand 50W Carbaryl insecticide in a mix tank. Fill tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of SEVIN® brand 50W, and then the remaining volume of water. (Suspension concentrations using the appropriate dosage per acre recommended on this label of SEVIN® brand 50W 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 SEVIN® brand 50W into the irrigation water line so as to deliver the desired rate per acre. The suspension of SEVIN® brand 50W 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 SEVIN® brand 50W 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.

#### **PREHARVEST 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 carbaryl 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 resulting in illegal residues in meat and milk. This product may be applied up to and including the day of harvest or grazing of forage crops (except alfalfa). Application may be made without removing livestock from the area being treated. Do not apply at greater rates or at more frequent intervals than is stated on the label. To do so may result in illegal residues in crops, meat and milk.

Do not plant rotational food and feed crops not listed on this or other carbaryl labels in carbaryl treated soils.

Do not use reclaimed irrigation water from crops treated with carbaryl on crops for which carbaryl tolerances are not established.

#### **PLANT RESPONSE PRECAUTIONS**

To avoid possible injury on tender foliage, do not apply to wet foliage or during periods of high humidity.

Do not use on Boston Ivy, Virginia creeper and maidenhair fern as injury will result. Carbaryl may also injure Virginia and sand pines.

Carefully observe label instructions for apple thinning to avoid excessive thinning. Combinations with certain herbicides on rice and soybeans may be phytotoxic. Refer to specific directions for the appropriate crop.

#### **SPRAY PREPARATION**

**TO ASSURE A UNIFORM SUSPENSION, AGITATE, STIR OR RECIRCULATE ALL SPRAY MIXTURES OF THIS PRODUCT PRIOR TO AND DURING USE.** Remove oil, rust, scale, pesticide residues and other foreign matter from mix tanks and entire spray system. Flush with clean water. Fill spray or mix tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of SEVIN® brand 50-W Carbaryl Insecticide and then the remaining volume of water. Include rinse water from the container. 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 MIXTURE FOR PROLONGED PERIODS OR DEGRADATION OF CARBARYL MAY OCCUR.** Local water conditions may accelerate the degradation of spray mixtures containing carbaryl. See **COMPATABILITY STATEMENT** below.

**BEST AVAILABLE COPY**

## COMPATIBILITY

SEVIN® brand 50-W Carbaryl Insecticide has been effectively used without plant injury with most common insecticides, miticides, fungicides, nutrients, adjuvants, and with petroleum oil as used on citrus. If compatibility with another product and the resulting crop response is unknown, it should be tested on a small scale. Curdling, precipitation, greasing, layer formation or increased viscosity are symptoms of incompatibility. Incompatibility will reduce insect control and may cause mechanical difficulties or plant injury. Observe all cautions and limitations on labeling of all products used in mixtures. **WHEN PREPARING COMBINATION SPRAYS, FIRST ADD "SEVIN" BRAND 50-W CARBARYL INSECTICIDE TO 1/2 THE DESIRED AMOUNT OF 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.**

Carbaryl is unstable under highly alkaline conditions and mixtures with strong bases such as Bordeaux, lime-sulfur and casein-lime spreaders, will result in chemical degradation of the insecticide. Do not use this product in water with pH values above 8.0 unless a buffer is added. If necessary, water should be buffered to neutral (pH=7.0) before adding this product to the spray tank. Overhead irrigation with alkaline or muddy water after application will also accelerate chemical degradation and may result in reduced insect control.

## APPLICATION

On all crops use sufficient gallonage to obtain thorough and uniform coverage. Observe crop label instructions for specific directions regarding spray volume where they occur. Calibrate spray equipment to deliver the required volume. 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 and detergent mixture. Refer to the Storage and Disposal directions for disposal instructions.

## INSECT CONTROL

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. Where a dosage range is indicated, use the lower rate on light to moderate infestations, young plants and early instars and the higher rate on heavy infestations, mature plants, advanced instars and adults. Thorough and uniform spray coverage is essential for effective control.

**NOTE:** All references to armyworm on the crops listed below refer to the species, *Pseudaletia unipuncta*, often called the "true armyworm." Except where indicated otherwise, this product is not registered for the control of other armyworm species. Regional differences have been noted in the susceptibility of certain strains of fall armyworm, Colorado potato beetle, spotted tentiform leafminer, and tobacco budworm (on cotton) to carbaryl. If local experience indicates inadequate control, use an alternative pesticide.

## FORAGE, FIELD AND VEGETABLE CROP INSECT CONTROL

Recommended dosages refer to pounds of SEVIN® brand 50-W Carbaryl Insecticide per acre. Where a dosage range is indicated, use lower rate on young plants, higher rate on mature plants. Use sufficient spray gallonage to obtain full coverage. This will usually vary from 3 to 40 gallons per acre depending on equipment, degree of insect infestation, and stage of crop growth. Keep spray mixture well agitated. Apply when insects or their damage appear and repeat at 7 to 10 day intervals or as necessary unless shorter interval is specified below. See specific directions below for grasshopper control.

### GRASSHOPPERS

Apply 1 to 3 pounds as often as necessary. **TO CONTROL GRASSHOPPERS ON THE FORAGE FIELD AND VEGETABLE CROPS, FOLLOW PREHARVEST LIMITATIONS GIVEN AFTER EACH CROP.** Use 1 to 1 1/2 pounds for nymphs on small plants or sparse vegetation. Use 2 to 3 pounds for mature grasshoppers, applications to dense vegetation or if extended residual control is desired. Be certain spray volumes are appropriate to assure adequate coverage.

### ALFALFA, CLOVERS AND BIRDSFOOT TREFOIL (DO NOT USE ON BIRDSFOOT TREFOIL IN CALIFORNIA)

Use 1 to 2 pounds for blister beetles and Mexican bean beetle.

Use 2 pounds for alfalfa caterpillar, bean leaf beetle, cucumber beetles, green cloverworm, Japanese beetle, leafhoppers, three-cornered alfalfa hopper, thrips and velvetbean caterpillar.

Use 1 to 3 pounds for grasshopper control. Refer to the general GRASSHOPPER heading above.

Use 2 to 3 pounds for alfalfa blotch leafminer, armyworm, cloverhead weevil, corn earworm, cutworms, Egyptian alfalfa weevil larvae, essex skipper, European alfalfa beetle, fall armyworm, lygus bugs, stink bugs, webworms, and yellowstriped armyworm.

Use 2 to 3 pounds for alfalfa weevil larvae West of the Rocky Mountains and 3 pounds East of the Rocky Mountains. For alfalfa weevil larvae, if pretreatment damage is extensive, cut alfalfa and treat the stubble.

### OBSERVE BEE CAUTION

Observe plant response precautions.

On dense growth, use 20 to 40 gallons per acre with ground equipment to ensure adequate coverage.

Carbaryl may cause temporary bleaching of tender alfalfa foliage.

Apply only once per cutting.

Do not apply within 7 days of harvest.

### ASPARAGUS

Use 2 to 4 pounds for asparagus beetle on seedlings or spears.

Use 4 to 8 pounds for asparagus beetle and Apache cicada on ferns or brush growth in the post-harvest period.

Do not apply more often than once every 3 days.

Do not apply within 1 day of harvest.

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Use 1 to 2 pounds for blister beetles and Mexican bean beetle.

Use 2 pounds for alfalfa caterpillar, bean leaf beetle, cucumber beetles, flea beetles, green cloverworm, Japanese beetle, leafhoppers, three-cornered alfalfa hopper, thrips, velvetbean caterpillar, and western bean cutworm.

Use 1 to 3 pounds for grasshopper control. Refer to the general GRASSHOPPER heading above.

Use 2 to 3 pounds for armyworm, corn earworm, cutworms, European corn borer, fall armyworm, stink bugs, tarnished plant bug, and webworms.

Use 3 pounds for alfalfa looper.

Use 4 pounds for cowpea curculio.

In California, use 4 pounds for corn earworm, limabean pod borer, lygus bugs, and stink bugs.

Observe plant response precautions.

Do not apply to cowpeas within 3 days of harvest or to lentils within 0 days of harvest.

#### **CABBAGE, BROCCOLI, BRUSSEL SPROUTS, CAULIFLOWER AND KOHLRABI**

Use 1 to 2 pounds for flea beetles and harlequin bug.

Use 2 to 4 pounds for armyworm, fall armyworm, diamondback moth, imported cabbageworm and corn earworm.

Do not apply within 3 days of harvest.

#### **CHINESE CABBAGE, COLLARDS, HANOVER SALAD, HORSERADISH, KALE, MUSTARD GREENS, RADISHES, RUTABAGAS AND TURNIPS.**

Use 1 to 2 pounds for flea beetles, harlequin bug and leafhoppers.

Use 2 to 3 pounds for aster leafhopper.

Use 2 to 4 pounds for armyworm, fall armyworm, imported cabbageworm, corn earworm, tarnished plant bug and stink bugs.

Do not apply within 3 days of harvest of horseradish, radishes, rutabagas and turnips (roots).

Do not apply within 14 days of harvest of Chinese cabbage, collards, hanover salad, kale, mustard greens and turnips (tops).

#### **CARROTS, CELERY, PARSNIPS AND PARSLEY (DO NOT USE ON CELERY IN CALIFORNIA)**

Use 1 to 2 pounds for flea beetles and leafhoppers.

Use 2 to 3 pounds for aster leafhopper, lygus bugs, and spittlebugs.

Use 2 to 4 pounds for armyworm, fall armyworm, corn earworm, tarnished plant bug and stink bugs.

Treat on a 5 to 7 day schedule.

No time limitation on carrots.

Do not apply within 3 days of harvest of parsnips.

Do not apply within 14 days of harvest of parsley and celery.

#### **CORN (FIELD, SWEET AND POP)**

Use 2 to 4 pounds for armyworm, chinch bugs, corn earworm, corn rootworm adults, fall armyworm, flea beetles, Japanese beetle, sap beetles, Southwestern corn borer, and leafhoppers.

**OBSERVE BEE CAUTION:** For insects attacking silks and ears, apply at 1 to 6 day intervals starting when first silks appear and continuing until silks begin to dry. For larvae in whorl and foliage feeders, apply as necessary. Optimum timing and good coverage are essential for effective control. For optimum chinch bug control, apply at least 20 gallons of water per acre by ground and direct spray toward stalk to provide thorough coverage.

Use 1 to 3 pounds for grasshopper control. Refer to the general GRASSHOPPER heading above.

Use 3 to 4 pounds for European corn borer control. For optimum control, do not apply in less than 3 gallons of water per acre by air and 15 gallons of water per acre by ground.

Use 4 to 6 pounds for cutworms. For optimum control, apply in a 12 inch band over the row, using sufficient volume of water to obtain thorough coverage. For broadcast application use at least 20 gallons (ground) or 5 gallons (air) of water per acre.

#### **COTTON**

Use 1 to 2 pounds for early season control of cotton fleahopper, cotton leafworm, flea beetles, striped blister beetle, and thrips.

Use 2 to 4 pounds for mid and late season control of boll weevil, cotton bollworms, fall armyworm, leafrollers, leafhoppers, tarnished plant bug, and yellowstriped armyworm (cotton cutworm). Treat on a 5 to 7 day schedule for as long as necessary. May be applied after bolls open.

Use 2 to 4 pounds for light to moderate populations of lygus bugs in Western irrigated cotton.

Use 3 to 5 pounds for pink bollworm.

Use 4 pounds for cutworms, stink bugs(except southern green stinkbug) and saltmarsh caterpillar.

Aphid populations will be suppressed by repeated applications of this insecticide.

Do not use this product within 7 days of harvest.

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2 pounds for cucumber beetles, flea beetles, leafhoppers and squash bug.

Observe plant response precautions.

#### **DANDELION, ENDIVE (ESCAROLE), LETTUCE AND SALSIFY**

Use 1 to 2 pounds for flea beetles, harlequin bug and leafhoppers.

Use 2 to 3 pounds for aster leafhopper, lygus bugs, and spittlebugs.

Use 2 to 4 pounds for armyworm, fall armyworm, imported cabbageworm, corn earworm, tarnished plant bug and stink bugs.

Observe plant response precautions. Treat on a 5 to 7 day schedule after heads begin to form.

Do not apply within 3 days of harvest of head lettuce and salsify (roots).

Do not apply within 14 days of harvest of dandelion, endive (escarole), leaf lettuce and salsify (tops).

#### **FLAX AND PROSO MILLET (DO NOT USE IN CALIFORNIA)**

Use 2 to 3 pounds for armyworm control.

Use 1 to 3 pounds for grasshopper control. Refer to the general GRASSHOPPER heading above.

Do not graze treated areas or harvest for dairy feed prior to crop maturity.

Do not apply within 42 days of harvest.

#### **GARDEN BEET, SPINACH AND SWISS CHARD**

Use 1 to 2 pounds for the flea beetles, harlequin bug and leafhoppers.

Use 2 to 3 pounds for aster leafhopper.

Use 2 to 4 pounds for armyworm, corn earworm, fall armyworm, tarnished plant bug and stink bugs.

Treat on a 5 to 7 day schedule.

Do not apply within 3 days of harvest of garden beets (roots).

Do not apply within 14 days of harvest of garden beets (tops), spinach and Swiss chard.

#### **OKRA**

Use 2 to 4 pounds for corn earworm and stink bugs.

Treat on a 5 to 7 day schedule.

#### **PASTURE**

Use 2 to 3 pounds for armyworm, black grass bugs, chinch bugs, essex skipper, fall armyworm, range caterpillar, range crane fly, striped grass looper, and thrips. Use the lower rate for nymphs and immature insects on small plants or sparse vegetation. Apply the higher rate for adults or when vegetation is thick. For thrips control in grasses grown for seed, use high spray pressure to improve penetration into boot.

Use 1 to 3 pounds for grasshoppers. Refer to the general GRASSHOPPER heading above.

Apply a maximum of 2 applications per year. Allow at least 14 days between applications. Do not allow foraging or cut for hay within 14 days of last application by ground. Aerially treated pastures may be grazed or cut for hay on day of treatment.

Carefully mark swaths to avoid over-application.

#### **PEANUTS**

Use 1 to 2 pounds for blister beetles and Mexican bean beetle.

Use 2 pounds for alfalfa caterpillar, bean leaf beetle, cucumber beetles, green cloverworm, Japanese beetle, leafhoppers, red-necked peanutworm, three-cornered alfalfa hopper, thrips and velvetbean caterpillar.

Use 2 to 3 pounds for armyworm, fall armyworm, corn earworm, stink bugs and webworms.

Use 4 pounds for white fringed beetle adults and cutworms.

Observe plant response precautions.

#### **PEAS**

Use 2 pounds for leafhoppers and Colorado potato beetle.

Use 2 to 3 pounds for armyworm.

Use 3 pounds for alfalfa caterpillar, cutworms, pea leaf weevil, pea weevil, and yellow-striped armyworm.

Use 5 pounds for alfalfa looper in Washington State only.

Do not apply within 3 days of harvest.

#### **POTATO, TOMATO, EGGPLANT AND PEPPER**

Use 1 to 2 pounds for Colorado potato beetle, flea beetles and leafhoppers.

Use 2 to 4 pounds for European corn borer, fall armyworm, lace bugs, stink bugs (suppression), tomato fruitworm, tomato hornworm, tomato pinworm, and tarnished plant bug.

Use 4 pounds for cutworm control.

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Thorough coverage is essential to effectively suppress stink bugs. When disease transmission is suspected, monitor fields following application and re-treat if reinfestation occurs.

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## **RICE**

**CAUTION:** May kill shrimp and crabs. Do not use in areas where these are important resources. Do not use on rice fields in which crayfish and/or catfish farming are included in the cultural practice.

In the Mississippi Delta and Texas use 2 to 3 pounds for armyworm, fall armyworm, chinch bugs, and stink bugs.

**DO NOT APPLY PROPANIL HERBICIDES WITHIN 15 DAYS BEFORE OR AFTER APPLICATION OF THIS PRODUCT OR PLANT INJURY WILL RESULT.**

Use 1 to 3 pounds for grasshoppers. Refer to the general GRASSHOPPER heading above.

In California use 4 pounds for armyworm, leafhoppers and tadpole shrimp. For optimum tadpole shrimp control apply to the water when the pest first appears.

Do not apply within 14 days of harvest.

## **RANGELAND (FOR AERIAL APPLICATION ONLY)**

Use 1 to 1 1/2 pounds for black grass bug, mormon cricket, range caterpillar and range crane fly. Use the lower rate for nymphs and immature insects on small plants or sparse vegetation. Apply the higher rate for adults or when vegetation is thick.

Use 1 to 3 pounds for grasshoppers. Refer to the general GRASSHOPPER heading above.

Apply a maximum of 2 applications per year. Allow at least 14 days between application.

Carefully mark swaths to avoid over-application.

## **SORGHUMS (milo, grain sorghum, sweet sorghum, and hybrids)**

Use 1 1/2 to 2 pounds for sorghum midge control. Treat for sorghum midge when 25 to 30 percent of heads have emerged from boot and are in bloom. Repeat 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.

Use 2 to 4 pounds for armyworm, chinch bugs, corn earworm, fall armyworm, stink bugs (suppression of green stinkbugs), and webworms. For chinch bugs use high gallonage ground application directed at the base of plants.

Use 3 pounds for Southwestern corn borer.

Use 4 pounds for cutworm control.

Use 1 to 3 pounds for grasshoppers. Refer to the general GRASSHOPPER heading above.

Direct spray into forming heads for optimum insect control.

Do not apply within 21 days of harvest of grain. No time limitations on forage.

## **SOYBEANS**

**DO NOT APPLY A COMBINATION OF THIS PRODUCT AND 2,4-DB HERBICIDES TO SOYBEANS AS CROP INJURY MAY RESULT.**

Use 1 to 2 pounds for bean leaf beetle, blister beetle, cucumber beetle, grape colaspis, green cloverworm, Japanese beetle, Mexican bean beetle and velvetbean caterpillar.

Use 1 to 3 pounds for corn earworm control.

Use 1 to 3 pounds for grasshoppers. Refer to the general GRASSHOPPER heading above.

Use 2 pounds for alfalfa caterpillar, leafhoppers, three-cornered alfalfa hopper, and thrips.

Use 2 to 3 pounds for armyworm, cutworm, fall armyworms, and webworms.

Use 3 to 4 pounds for painted lady (thistle caterpillar), saltmarsh caterpillar, woollybear caterpillar, and yellowstriped armyworm.

Use lower rates for light to moderate populations and smaller instars and to provide maximum survival of beneficial insects and spiders. Use the higher rates for heavy populations and larger instars.

## **SUGAR BEETS**

Use 2 to 3 pounds for armyworms, beet leaf beetle, fall armyworm, flea beetles, leafhoppers and webworms.

Use 1 to 3 pounds for grasshoppers. Refer to the general GRASSHOPPER heading above.

Use 3 pounds for cutworms.

Do not apply within 14 days of harvest.

## **SUNFLOWER (DO NOT USE IN CALIFORNIA)**

Use 3 pounds for cutworm control.

Use 3 to 4 pounds on armyworm, fall armyworm and sunflower moth.

Use 2 to 4 pounds on stem weevil and sunflower beetle.

Use 1 to 3 pounds for grasshoppers. Refer to the general GRASSHOPPER heading above.

Do not apply within 60 days of harvest.

## **SWEET POTATOES - (DO NOT USE IN CALIFORNIA)**

Apply as a foliar spray as needed.

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Use 2 to 4 pounds for corn earworm, cucumber beetles, flea beetles, sweet potato hornworm, sweet potato weevil, and tortoise beetles. For sweet potato weevil, full coverage of plants is essential. Use the lower rate on young plants and the higher rate on mature plants.

Use 4 pounds for yellowstriped armyworm control.

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## **TOBACCO**

**PLANT BED TREATMENTS:** For flea beetle, use 4 level tablespoonfuls per gallon or 2 pounds per 50 gallons, and apply 6 gallons of water per 100 square yards.

For green June beetle grubs, use 1 pound per 100 gallons of water when insects or their damage appear. Apply only to areas that larvae have uprooted by sprinkling as a drench with 50 to 100 gallons per 100 square yards. May be applied before or after seeding. Avoid excessive application as plant injury may result.

**FIELD TREATMENT:** For budworms, fall armyworm, flea beetles, Japanese beetle, June beetles, hornworms and suckfly, use 2 to 4 pounds. Use the 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.

## **WASTELANDS, RIGHTS-OF-WAY, HEDGEROWS, DITCHBANKS, ROADSIDES INSECT CONTROL**

Use 1 to 2 pounds for black grass bugs, mormon cricket, range caterpillars and range crane fly. Use the lower rate for nymphs and immature insects on small plants or sparse vegetation. Apply the higher rate for adults or when vegetation is thick.

Use 1 to 3 pounds for grasshoppers. Refer to the general GRASSHOPPER heading above.

Apply a maximum of 2 applications per year. Allow at least 14 days between applications. Do not allow foraging or cut for hay within 14 days of last application by ground. Aerially treated area may be grazed or cut for hay on day of treatment.

Carefully mark swaths to avoid over-application.

## **WHEAT (Including triticale) (DO NOT USE IN CALIFORNIA)**

Use 1 to 2 pounds for flea beetle control.

Use 1 to 3 pounds for grasshoppers. Refer to the general GRASSHOPPER heading above.

Use 2 pounds on cereal leaf beetle. Application is effective against eggs, larvae and adult of the cereal leaf beetle.

Use 2 to 3 pounds on armyworm and fall armyworm.

Do not apply within 21 days of harvest of grain. No time limitations on forage.

## **TREE FRUIT AND NUT INSECT CONTROL**

Recommended dosages refer to pounds of SEVIN® brand 50-W Carbaryl Insecticide per 100 gallons of dilute spray in conventional hydraulic-type sprayers. Apply dilute sprays for full coverage. Spray gallonage will vary according to tree size, density, planting distance and stage of growth. With concentrate spray, where lower volumes of spray are applied per acre, the concentration of SEVIN® brand 50-W Carbaryl Insecticide should be increased in the spray mixture so that the amount of SEVIN® brand 50-W Carbaryl Insecticide applied per acre is equivalent to a full-coverage dilute spray. Keep spray mixtures well agitated. Additional instructions appear with the crop categories below.

### **APPLE THINNING**

#### **OBSERVE BEE CAUTION.**

Apply 1 full coverage dilute spray between 10 and 25 days after full bloom. Factors such as tree age, variety, nutrition, previous crop, pruning, bloom and degree of set favor excessive fruit thinning with this product. Exercise caution to avoid possible yield reduction. Rates may vary depending on variety and local orchard conditions.

Consult with your County Extension Service or other experts for advice on the proper use of this product.

In Eastern apple growing areas, tank mix combinations of carbaryl and naphthaleneacetic acid (NAA) or naphthalene-acetamide (NAD) have successfully thinned several early-maturing, heavy-setting varieties, as well as hard-to-thin varieties such as Golden Delicious and Rhode Island Greening. The higher rate of carbaryl and reduced rates of NAA or NAD are recommended for the combination. Also, a petal fall application of NAA or NAD followed 7 to 10 days later by an application of carbaryl has improved thinning on these varieties.

**Concentration:** Use 1/2 to 1 pound on easily thinned varieties. On hard-to-thin varieties, use 1 to 2 pounds.

**Varietal Response:** Easily-thinned varieties include Cortland, Grimes, Jonathan, McIntosh, Orleans, Rome Beauty, Puritan, Red Delicious, Winesap, and Yellow Newton. Difficult-to-thin varieties include Baldwin, Ben Davis, Dutchess, Early McIntosh, Golden Delicious, Lady Apple, Northern Spy, Rhode Island Greening, Steele Red, Turley, Wealthy, Yellow Transparent, and York Imperial.

### **ALMOND**

#### **OBSERVE BEE CAUTION.**

Use 2 pounds for peach twig borer, San Jose scale and fruittree leafroller. For peach twig borer, apply in "popcorn" or petal fall stages when the May brood begins to hatch or thereafter as needed. For dormant or delayed dormant timing, apply in combination with a recommended dormant oil. Refer to the dormant oil label for additional use directions and restrictions.

Use 2 pounds for navel orangeworm. Time early and mid season applications to correspond to moth flight peaks. Make late season application at initiation of or up to 10% hull split.

Do not apply more than 10 pounds per acre.

Do not apply within 28 days of harvest.

### **AVOCADOS (FOR CALIFORNIA USE ONLY)**

**FOR USE IN JAPANESE BEETLE AND GYPSY MOTH ERADICATION PROGRAMS IN CALIFORNIA ONLY.**

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Use 2 pounds for Japanese beetle and gypsy moth control only. Use with ground equipment and spray to run off. Apply when insects or their damage appear. Do not make more than 1 application/season.

Do not apply within 1 day of harvest.

#### **CHESTNUTS - (DO NOT USE IN CALIFORNIA)**

Use 4 to 6 pounds for chestnut weevil.

Do not apply within 1 days of harvest.

Make 4 applications at weekly intervals beginning in late July for adult chestnut weevil control. Last application should be made prior to shuck split.

**CITRUS FRUITS** (such as grapefruit, lemons, limes, oranges, tangelos, tangerines, citrus citron, kumquats and hybrids).

Use 2 pounds for avocado leafroller, California orangedog, citrus cutworm, citrus root weevil, fruittree leafroller, orange tortrix, Western tussock moth and West Indian sugarcane borer (adults).

Use 1 1/2 to 2 pounds for black scale, brown soft scale, California red scale, citricola scale, citrus scale, and yellow scale.

#### **OBSERVE BEE CAUTION.**

Do not apply more than 40 pounds of this product per acre per application.

To insure thorough coverage, do not apply less than 10 gallons of dilute spray mixture per mature tree.

May be mixed with petroleum oils commonly used on citrus.

Apply dilute sprays in 300 to 500 gallons of water.

Do not apply within 5 days of harvest of these crops.

#### **FILBERT**

Use 2 pounds for filbert aphid, filbert leafroller and filbertworm. Apply when leafroller eggs are hatching. Repeat on first appearance of adult filbert moths and again 3 to 4 weeks later.

Apply dilute sprays in 300 to 400 gallons of water per acre.

#### **OLIVES**

Use 1 1/2 to 2 pounds for olive scale control. 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 30 pounds of this product per acre per application.

#### **PEACHES APRICOTS AND NECTARINES**

Use 2 pounds for apple pandemis, codling moth, cucumber beetles, European earwig, fruittree leafroller, gypsy moth, Japanese beetle, June beetles, lecanium scale, lesser peachtree borer, olive scale, orange tortrix, oriental fruit moth, peach twig borer, periodical cicada, plum curculio, redbanded leafroller, San Jose scale, tarnished plant bug, tussock moths, and variegated leafroller. For optimum scale control, apply when crawlers are present. For lesser peachtree borer, spray limbs and trunk thoroughly at weekly intervals during moth flight.

Do not apply more than 12 pounds of this product per acre per application to apricots.

Apply dilute sprays in 200 to 400 gallons of water per acre.

Do not apply within 1 day of harvest of peaches.

Do not apply within 3 days harvest of apricots and nectarines.

#### **PECANS**

Use 2 to 5 pounds for black margined aphid, fall webworm, hickory shuckworm, lesser webworm, pecan leaf phylloxera, pecan stem phylloxera, pecan nut casebearer, pecan spittlebug, pecan weevil, twig girdler, walnut caterpillar.

Do not apply more than 14 2/5 pounds of this product per acre per application.

Apply dilute sprays in 200 to 500 gallons of water per acre.

#### **PISTACHIOS**

Use 1 to 4 pounds for navel orangeworm control. Apply dilute volumes of 150 to 300 gallons of mixed spray per acre for full coverage at onset of hull split.

Do not use within 14 days of harvest.

#### **PLUMS, PRUNES, AND CHERRIES**

Use 1 1/2 pounds for eastern tent caterpillar, codling moth, orange tortrix, and tussock moths.

Use 2 pounds for black cherry aphid, brown soft scale, cherry fruitworm, cherry maggots, European earwig, eyespotted bud moth, Forbes scale, fruittree leafroller, green fruitworm, gypsy moth, Japanese beetle, lecanium scales, lesser peachtree borer, mealy plum aphid, oystershell scale, peach twig borer, plum curculio, prune leafhopper, redbanded leafroller, rose chafer, San Jose scale, and variegated leafroller. For optimum scale control, apply when crawlers are present. For lesser peachtree borer control spray limbs and trunk thoroughly at weekly intervals during moth flight.

Do not apply more than 12 pounds of this product per acre per application.

Apply dilute sprays in 200 to 400 gallons of water per acre.

Do not apply within 1 day of harvest.

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**POME FRUITS** (including apples, pears, loquats, crabapples, oriental pears, and quince)

Application of this product within 30 days after full bloom may also provide apple thinning. To avoid this, delay use until at least 30 days after bloom.

Use 1 1/2 to 2 pounds for apple aphid, apple maggot, apple rust mite, apple sucker, bagworms, California pearslug (Pear sawfly), Eastern tent caterpillar, European apple sawfly, eyespotted bud moth, Forbes scale, fruittree leafroller, green fruitworm, gypsy moth, lygus bugs, orange tortrix, oystershell scale, pear leaf blister mite, pear psylla, pear rust mite, periodical cicada, plum curculio, redbanded leafroller, rosy apple aphid, San Jose scale, tarnished plant bug, tentiform leafminers, wooly apple aphid, yellowheaded fireworm control. For psylla control apply when eggs hatch or young nymphs are present. To control scale insects, apply when crawlers are present.

Use 1 pound for apple mealybug, apple aphid, codling moth, white apple leafhopper.

Use 1 1/4 pounds for Japanese beetle. Apply as necessary with ground equipment at 7-14 day intervals.

Apply dilute sprays in 200 to 400 gallons of water per acre.

Do not apply within 1 day of harvest of apples and pears.

**WALNUT**

Use 1 pound for calico scale, codling moth, European fruit lecanium, filbertworm, fruittree leafroller, and frosted scale. Apply 1000 gallons of diluted 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.

Apply dilute sprays in 200 to 500 gallons of water per acre.

Use 4 pounds for European earwig. Spray tree trunks to point of run-off.

**SMALL FRUIT INSECT CONTROL**

Recommended dosage refers to pounds of SEVIN® brand 50-W Carbaryl Insecticide per acre. The optimum spray gallonage will depend on plant size, density and stage of growth.

Typical spray gallonage per acre ranges from 100 to 300 gallons for dilute sprays, and 30 to 100 gallons for concentrate sprays and 5 to 25 gallons for aerial sprays. Do not exceed maximum label rate per acre per application.

**BLACKBERRIES, RASPBERRIES AND DEWBERRIES (Including Boysenberries and Loganberries)**

Use 2 to 4 pounds for Japanese beetle, leafrollers, leafhoppers, European raspberry aphid, rose chafer, and snowy tree cricket.

In California, use 4 pounds for omnivorous leafroller and raspberry sawfly.

Do not apply within 7 days of harvest of these crops.

**BLUEBERRIES**

Use 3 to 4 pounds for blueberry maggot, cherry and cranberry fruitworms, European fruit lecanium and Japanese beetle. Apply 3 weeks before harvest and repeat as necessary.

**CRANBERRIES**

Use 3 to 6 pounds for cutworms, cranberry fireworms, cranberry fruitworm, cranberry twig girdler, elm spanworm, Japanese beetle, leafhoppers, rose chafer and spaganothus worm. Apply as needed through prebloom at 7 to 10 day intervals. Resume applications as needed beginning at late bloom.

**OBSERVE BEE CAUTION.**

Do not apply within 1 day of harvest.

**CAUTION:** May kill shrimp and crabs. Do not use in areas where these are important resources.

**GRAPES**

Use 2 to 4 pounds for European fruit lecanium, grape leafroller, grape leafhopper, western grapeleaf skeletonizer, and Western yellowstriped armyworm.

Use 4 pounds for cutworms, eight spotted forester, grape berry moth, Japanese beetle, June beetles, orange tortrix, omnivorous leafroller, redbanded leafroller, and saltmarsh caterpillar.

Apply just before first brood leafroller larvae emerge from rolls .

Do not apply within 7 days of harvest.

**STRAWBERRIES**

Use 2 to 4 pounds for flea beetles, meadow spittlebug, omnivorous leafier (strawberry fruitworm), strawberry clipper, strawberry bud weevil, strawberry leafroller and strawberry weevil. Carbaryl may injure Early Dawn and Sunrise varieties.

Do not apply within 1 day of harvest.

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# NON-RESIDENTIAL TREES AND ORNAMENTALS INSECT CONTROL

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For dilute spray ground applications to nonresidential trees (including shade trees, sugar producing sugar maple, shelter belts, forests, plantations, parks, and recreational areas), nonresidential ornamentals (including roses, flowers and other herbaceous plants), 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 aerial applications, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. Avoid direct application to lakes, streams and ponds.

## USE 2 POUNDS FOR CONTROL OF:

Ants	Grasshoppers	Pine spittlebug
Apple aphid	Gypsy moth	Pitch pine tip moth
Armyworm	Hackberry niplegall maker	Plant bugs
Azalea leafminer	Holly bud moth	Poinsettia hornworm
Bagworms	Holly leafminer	Psyllids
Birch leafminer	Jackpine budworm	Puss caterpillar
Blister beetle	Japanese beetle	Redhumped oakworm
Boxelder bug	Jeffrey pine needleminer	Rose aphid
Boxwood leafminer	June beetles	Rose chafer
Brown tail moth	Lace bugs	Roseslug
Cankerworms	Leafhoppers	Saddled prominent
Catalpa sphinx	Leafrollers	Sawflies (exposed)
Chiggers	Locust borer	Scale insects
Cutworms	Maple leafcutter	Sowbugs
Cypress tip moth	Mealybugs	Spiny elm caterpillar
Eastern spruce gall adelgid	Mimosa webworm	Springtails
Elm leaf aphid	Nantucket pine tip moth	Spruce needle-miner
Elm leaf beetle	Oak leafminers	Subtropical pine tip moth
Elm spanworm	Oak leaf skeletonizer	Tent caterpillars
Eriophyid mites	Oak moth	Thrips (exposed)
European pine shoot moth	Oakworm complex	Ticks
Fall armyworm	Oleander caterpillar	Tree hoppers
Flea beetles	Olive ash borer	Walnut caterpillar
Fuller rose beetle	Orangestriped oakworm	Webworms
Gall midges	Orange tortrix	Western hemlock looper
Gall wasps	Periodical cicada	Willow leaf beetles
Greenstriped mapleworm	Pine looper	Yellow poplar weevil
	Pine sawfly	

## USE 2 TO 4 POUNDS FOR CONTROL OF:

Balsam twig aphid    Cooley spruce gall adelgid    Douglas-fir tussock moth    Spruce budworm    Western spruce budworm

Use the higher rate on large pest populations or advanced instars.

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.

Applications for control of Maple leafcutter on sugar maple should be made when larvae are in 2nd instar, after mining, and as cases are being formed.

Observe plant response precautions.

Use 32 pounds for control of elm bark beetle, Ips engraver beetles, mountain pine beetle, roundheaded pine beetle, spruce beetle and western pine beetle. Effective as a preventive treatment only. Repeat annually as required to prevent beetle attacks. Apply 1 gallon of spray per 50 square feet of bark prior to beetle flight or host-tree attack. Treat tree trunks from ground level up, until trunk diameter is less than 5 inches. For elm bark beetle, apply approximately 20 to 30 gallons of spray mixture for each 50 feet of elm tree for thorough coverage of all bark surfaces on trunks, limbs and twigs.

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For control of certain turfgrass pests, apply the recommended rates, using hose-end sprayers or pressure type equipment, in sufficient spray volume for thorough coverage and turf thatch penetration. Where a dosage range is indicated, use the higher rate on large pest populations, advanced instars and dense vegetation. Repeat treatment as necessary.

**Use 3.0 ounces of SEVIN® brand 50W Carbaryl insecticide per 1000 square feet (8 pounds per acre) of turfgrass for control of:**

Ants	Centipedes	Fiery skipper
Earwigs	European chafer	Lucerne moth
Green June	June beetles	Yellowstriped
Sowbugs	Springtails	Cutworms
Armyworm	Chiggers	Grasshoppers
Essex skipper	Fall armyworm	Millipedes
beetle grubs	Leafhoppers	armyworm
Spittlebugs	Ticks	Mosquitoes
	Chinch bugs	(adults)

**For Armyworm, Cutworm and Fall Armyworm Control:** Do not irrigate treated areas following insecticide application.

**For Green June Beetle Grub Control:** Make applications when grubs are feeding near the soil surface. Water or irrigate turf grasses soon after treatment.

**Use 6.0 ounces of SEVIN® brand 50W Carbaryl insecticide per 1000 square feet (16 pounds per acre) of turfgrass for control of:** Chinch bugs, Bluegrass billbug, European crane fly, Fleas, Sod Webworm (lawn moths), and White grubs (such as Japanese beetle Chafer beetle and *Phyllophaga* spp. larvae)

**For Chinch Bug Control:** Treat entire grass area rather than just damaged areas. Irrigation of turfgrass area before treatment will aid in penetration of insecticide into turfgrass.

**For European Crane Fly Control:** Treatments should be applied in early spring, April 1 to April 15, or as recommended by local Agricultural Extension Service agents. Water or irrigate turf grasses thoroughly soon after treatment.

**For Sod Webworm Control:** Do not irrigate treated areas following insecticide application.

**For White Grub Control:** Applications should be made when grubs are feeding near the soil surface, usually during late March through May, or July to early September, or as recommended by local Agricultural Extension Service agents. Water or irrigate turf grasses thoroughly soon after treatment.

## **POULTRY INSECT CONTROL (Chickens, ducks, game birds, geese, pigeons and turkeys)**

**Direct Mist Spray on Birds:** Control northern fowl mite, chicken mite, lice and fleas by:

1. Misting with Electric Fog Machine: Mix 5/8 pound (10 ounces) of this product in 1 gallon of spray. Use 1 1/2 gallons per 1000 hens in cages, on litter or slatted floor. Repeat in 4 weeks if necessary.
2. Spraying with knapsack or cylinder type compressed air sprayers. Mix 3/8 pound (6 ounces) of this product in 5 gallons of spray. Use 1 gallon per 100 hens in cages on litter or on slatted floor. Repeat in 4 weeks if necessary.

Direct mist spraying for chicken mite and fleas, as a supplement to spraying roosts and buildings for control of these pests.

For bedbugs, chicken mite, fleas, fowl tick, lesser mealworms, lice and northern fowl mite; spray roosts and buildings with conventional power spray or knapsack equipment. For chicken mite, fleas and bedbugs, use 2 pounds per 25 gallons of water. For fowl ticks, use 8 pounds per 25 gallons of water. Spray 1 to 2 gallons per 1000 square feet of wall, bedding, litter or roost surfaces. Force spray into cracks and crevices. Repeat as needed. Ventilate while spraying. Avoid spraying of nests, eggs and feeding and watering troughs.

Do not apply to poultry and game birds or to their premises within 7 days of slaughter.

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## IMPORTED FIRE ANT CONTROL

SITE	POUNDS OF SEVIN® BRAND 50-W/VOLUME OF WATER	SPECIFIC INSTRUCTIONS
Cemeteries and non-residential Recreational Areas (including turf, golf courses, and parks) Pastures, Rangeland, Forested Lands and Wastelands	3 pounds / 100 gallons	Apply a total of 2 gallons of the diluted solution over the surface of each mound or at least 1 quart per 6 inches of mound diameter using a bucket, can or other appropriate equipment. Thoroughly wet mound and surrounding area to a 4 ft. diameter (12 sq. ft.) Do not disturb mounds prior to treatment. Pour solution from a height of about 3 ft. to give sufficient force to break mound apex and flow into ant tunnels. For best results apply in cool weather, 65-80° F, or in early morning or late evening hours. Repeat application if mound activity resumes after 10 days. Treat new mounds as they appear. Pressurized spray may disturb the ants and causes migration, reducing product effectiveness.

### PEST CONTROL IN AND AROUND NONRESIDENTIAL BUILDINGS (LIMITED TO PEST CONTROL OPERATORS ONLY)

**General Information:** Staining may occur on certain surfaces such as stucco, brick, cinder block and wood. Therefore, applications of this product to surfaces where a noticeable residue or discoloration is objectionable should be avoided. Do not apply to carpets or draperies as staining may occur. Care should also be exercised to avoid spotting of wallpaper and fabrics.

Do not use this product in commercial food areas of food handling establishments, restaurants or other places where food is prepared or processed. Do not use in serving areas while food is exposed.

#### INDOORS

##### ANTS/CRICKETS/FIREBRATS/SILVERFISH

Mix 20 pounds in 100 gallons of water and apply as fine, low pressure (20 psi) spot spray or as crack and crevice application to areas where these pests hide, such as baseboards, storage areas, closets, around water pipes, doors and windows, behind and under refrigerators, cabinets, sinks, stoves, dishwashers, hot water heaters, the underside of shelves, drawers and similar areas. For ants, apply to ant trails, around doors and windows and other places where ants enter premises.

##### BEEES AND WASPS

Mix 20 pounds in 100 gallons of water and thoroughly spray nest and entrance and surrounding areas where insects alight. It is generally advisable to spray the nests in the evening when the insects are less active and have returned to the nest. For best results, check nest carefully one or two days after spraying to ensure complete kill, then remove and destroy nest to prevent emergence of newly hatched insects.

##### BROWN DOG TICKS AND FLEAS

Mix 20 pounds in 100 gallons of water and thoroughly spray infested areas such as nearby cracks and crevices, between and under cushions of upholstered furniture, along and behind baseboards, window and door frames and other areas where these pests may be present.

##### CARPENTER ANTS

Mix 20 pounds in 100 gallons of water and apply to ant trails, around doors and windows and other places where ants enter premises. Where possible, apply this product directly to any nest or infested wood.

##### CENTIPEDES/EARWIGS/MILLIPEDES/SCORPIONS

Mix 20 pounds in 100 gallons of water and apply around water pipes, doors and windows, and other places where these pests may enter premises. Spray baseboards, storage areas, garages, carports, basements and other areas where these pests are found.

##### COCKROACHES

Efficacy varies with species sensitivity. This product is generally not highly effective in controlling German cockroaches. However, the following may be controlled with the rates as stated. American roach, Australian roach, Brown roach, Smoky brown roach, and others. Mix 20 pounds in 100 gallons of water and apply as a fine, low pressure (psi) spot spray or as crack and crevice application to areas where these pests hide, such as baseboards, storage areas, closets, around water pipes, doors and windows, behind and under refrigerators, cabinets, sinks, stoves, dishwashers, hot water heaters, the underside of shelves, drawers and similar areas.

##### SPIDERS

Mix 20 pounds in 100 gallons of water and apply to infested baseboards, window and door frames, corners, pipes, storage areas, attics and under eaves. Make spot applications to other areas where these pests are present.

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**OUTDOORS**

**PERIMETER TREATMENT**

Residual spray for control of ants, bees and wasps, brown dog ticks, carpenter ants, centipedes, cockroaches, crickets, earwigs, firebrats and silverfish, fleas, millipedes, scorpions and spiders. Mix 10 pounds this product per 50 gallons of water and apply via power spray or other spray methods.

To help prevent infestations of buildings by the above pests, outside perimeter treatment should be in a band 6 to 10 feet wide and confined to shrub beds, foundation plantings and lawn or soil areas immediately adjacent to the structure. Direct application to structures should be minimal and restricted to cracks and crevices and other areas where insects tend to congregate.

**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 experience. 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.

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

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

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Research Triangle Park, North Carolina 27709  
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