

# U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs Registration Division (7505P) 1200 Pennsylvania Ave., N.W. Washington, D.C. 20460 EPA Reg. Number:

Number: 432-1227

Date of Issuance:

JUN 16 2009

NOTICE OF PESTICIDE:

Registration
XX Reregistration
(under FIFRA, as amended)

Terms of Issuance: Unconditional

Name of Pesticide Product:

Sevin SL Carbaryl Insecticide

Name and Address of Registrant (include ZIP Code): Bayer Environmental Science P.O. Box 12014, 2 T.W. Alexander Drive Research Triangle Park, NC 27709

**Note:** Changes in labeling 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 EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the 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.

Based on your response to the Reregistration Eligibility Documents), EPA has reregistered the product listed above. This action is taken under the authority of section 4(g)(2)(c) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended. Reregistration under this section does not eliminate the need for continual reassessment of pesticides. EPA may require submission of data at any time to maintain the registration of your product. Within 45 days from the date of this notice, two copies of a final printed label must be submitted.

Your Confidential Statement of Formula (CSF) dated July 18, 2005 is acceptable. This CSF supercedes all previous CSFs. You may distribute products bearing the old label for 12 months from receipt of this letter or your next printing of the label, whichever comes first.

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

Signature of Approving Official;

Date:

Meredith Laws, Branch Chief

JUN 16 2009

Registration Division, Insecticide-Rodenticide Branch

JUN 16 2009

Under the Rederal Insecticide, Panalcide, and Rodenticide Ass. as amanded, for the posticide Registered under

# SEVIN® SL Carbaryl Insecticide

## INTENDED FOR AGRICULTURAL OR COMMERCIAL USE

[Includes Residential Turf Spot Treatments]

ACTIVE INGREDIENT:

(Contains 4 Pounds Carbaryl Per Gallon)

EPA Reg. No. 432-1227

EPA Est. No. 264-MO-02

[Note: Bracket indicate optional text or mandatory language options, depending on the product uses placed on final package label]

# KEEP OUT OF REACH OF CHILDREN CAUTION

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577
For PRODUCT USE Information Call 1-800-331-2867

#### **FIRST AID**

IF SWALLOWED:	Call a poison control center or doctor immediately for treatment advice.
,	Do not induce vomiting unless told to do so by a poison control center or doctor.
	Have person sip a glass of water if able to swallow.
·	Do not give anything by mouth to an unconscious person.
IF ON SKIN OR	Take off contaminated clothing.
CLOTHING:	Rinse skin immediately with plenty of water for 15-20 minutes.
	Call a poison control center or doctor for treatment advice.
IF INHALED:	Move person to fresh air.
	If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
•	Call a poison control center or doctor for further treatment advice.
IF IN EYES:	Hold eye open and rinse slowly and gently with water for 15-20 minutes.
	Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
	Call a poison control center or doctor for treatment advice.

#### For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

NOTE TO PHYSICIAN: Carbaryl contains an N-methyl carbamate that inhibits cholinesterase. Drugs like 2-Pam (pyridine-2-aldoxime methiodide) are not recommended. To aid in the confirmation of diagnosis, urine samples should be obtained within 24 hours of exposure and immediately frozen. Analysis will be arranged by Bayer Environmental Science. Consultation on therapy can be obtained at all hours by calling the appropriate emergency number 1-800-334-7577 (U.S.A.)

#### PRECAUTIONARY STATEMENTS

# HAZARDS TO HUMANS & DOMESTIC ANIMALS CAUTION

Harmful if swallowed, absorbed through the skin, inhaled, or if in eyes. Avoid breathing vapors or spray mist. 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 OCCUR RAPIDLY FOLLOWING OVEREXPOSURE TO THIS PRODUCT.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE):

Some materials that are chemical-resistant to this product are barrier laminate, nitrile rubber, neoprene rubber, or viton. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

Handlers applying with open cab airblast equipment at application rates equal to or greater than 5 quarts of product per acre must wear:

- · Coveralls over long-sleeved shirt and long pants,
- · Chemical-resistant gloves,
- Chemical-resistant footwear plus socks,
- · Chemical-resistant headgear, and
- NIOSH-approved dust/mist filtering respirator with NIOSH/MSHA approval number prefix TC-21C or NIOSH- approved respirator with any N, R, P or HE filter

All other mixers, loaders, applicators, and handlers must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks,
- Chemical-resistant gloves, and
- Chemical-resistant apron, when mixing, loading, or cleaning up spills or equipment

In addition, mixers and loaders supporting aerial or chemigation applications must wear:

 A NIOSH-approved dust/mist filtering respirator with NIOSH/MSHA approval number prefix TC-21C or a NIOSH-approved respirator with any N, R, P or HE filter.

See engineering controls for additional requirements and exceptions.

#### **User Safety Requirements**

Follow manufacturer's instructions for cleaning and maintaining Personal Protective Equipment (PPE). If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

#### **ENGINEERING CONTROLS**

Pilots must use an enclosed cockpit in a manner that is consistent with the WPS for Agricultural Pesticides [40 CFR 170.240(d)(6)]. Applicators using airblast equipment for application to citrus in California must use an enclosed cab that meets the definition in the Worker Protection Standard for Agricultural Pesticides [40 CFR170.240(d)(5)] for dermal protection. In addition, such applicators must:

- wear long-sleeve shirt, long pants, shoes, and socks;
- either wear NIOSH-approved dust/mist filtering respirator with NIOSH/MSHA approval number prefix TC-21C or NIOSH- approved
  respirator with any N, R, P or HE filter or use an enclosed cab that is declared in writing by the manufacturer or by a government
  agency to provide at least as much respiratory protection as this type of respirator;
- be provided and have immediately available for use and wear in an emergency when they must exit the cab in the treated area
  coveralls, chemical-resistant gloves, chemical-resistant footwear, and chemical- resistant headgear (if overhead exposure) plus if
  not already using one the respirator specified above;
- take off any PPE that was worn in the treated area before reentering the cab, and
- store all such PPE in a chemical-resistant container, such as a plastic bag, to prevent contamination of the inside of the cab.

Human flagging is prohibited, except for flagging to support ultra low volume aerial applications for Rangeland Grasshopper and Mormon Cricket Suppression through the Animal and Plant Health Inspection Service (APHIS) Program or affiliated state program. Flagging to support aerial application for all other use patterns is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

Flaggers supporting ultra low volume aerial applications for Rangeland Grasshopper and Mormon Cricket Suppression through the Animal and Plant Health Inspection Service (APHIS) Program or affiliated state program must use an enclosed cab that meets the definition in the Worker Protection Standard for Agricultural Pesticides [40 CFR 170.240(d)(5)] for dermal protection. In addition, flaggers must:

- wear long-sleeve shirt, long pants, shoes, and socks,
- either wear NIOSH-approved dust/mist filtering respirator with NIOSH/MSHA approval number prefix TC-21C or NIOSH- approved
  respirator with any N, R, P or HE filter or use an enclosed cab that is declared in writing by the manufacturer or by a government
  agency to provide at least as much respiratory protection as this type of respirator;
- be provided and have immediately available for use and wear in an emergency when they must exit the cab in the treated area: chemical-resistant gloves and chemical-resistant headgear, and, if using an enclosed cab that provides respiratory protection, a respirator of the type specified above,
- take off any PPE that was worn in the treated area before reentering the cab, and
- store all such PPE in a chemical-resistant container, such as a plastic bag, to prevent contamination of the inside of the cab.

When applicators use enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (5)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### **User Safety Recommendations**

Users should wash hands thoroughly with soap and water before eating, drinking, chewing gum, using tobacco, or using the toilet.

Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### **ENVIRONMENTAL HAZARDS**

This product is extremely toxic to aquatic 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. Do not apply when weather conditions favor drift from area treated. Drift and run-off may kill aquatic invertebrates in water adjacent to treated areas. Do not contaminate water by cleaning equipment or disposal of wastes. Do not contaminate water when disposing of equipment washwaters.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) Permit and the permitting authority has been notified in writing prior to the discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your state water Board or Regional Office of the EPA.

#### BEE CAUTION: MAY KILL HONEYBEES AND OTHER BEES IN SUBSTANTIAL NUMBERS.

This product is highly toxic to bees exposed to direct treatment or residues on crops or weeds in bloom.

[For label with crop/agriculture uses: For crops in bloom, do not apply this product to target crops or weeds in bloom. Notifying beekeepers within 1 mile of treatment area at least 48 hours before product is applied will allow them to take additional steps to protect their bees. Limiting application to times when bees are least active, e.g., within 2 hours of sunrise or sunset, will minimize risk to bees]. [For label with non-agricultural uses only (trees, ornamental, turf, non-cropland, perimeter treatments): Do not apply this product to plants in bloom].

#### **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 restrictions. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide 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 enter or allow worker entry into treated areas during the Restricted-entry interval (REI). The REI for carbaryl is 12 hours unless otherwise specified in the directions for use associated with each crop.

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 over short-sleeve shirt and short-pants, chemical-resistant footwear plus socks, chemical-resistant gloves made of any waterproof material, and chemical-resistant headgear if overhead exposure. When the Restricted-Entry Interval for a crop is 7 days or longer, you must notify workers of the application by warning them orally and by posting warning signs at entrances to treated area.

#### 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 enter or allow others to enter the treated area until sprays have dried.

#### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

#### STORAGE

Store unused product in original container only, in cool, dry area out of reach of children and animals. Do not store in areas where temperatures frequently exceed 100°F. This product may be used following exposure to several freeze-thaw cycles.

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

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available, or reconditioning or puncture and dispose of container in a sanitary landfill, by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### RESTRICTIONS

#### PREHARVEST AND GRAZING RESTRICTIONS

For all listed crops and uses, do not apply at greater rates or at more frequent intervals than stated on the label. If forage is grazed or used as feed for dairy and meat animals, follow all use restrictions in order to avoid illegal residues in crops, meat or milk.

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

#### **PLANT RESPONSE**

Application to wet foliage or during periods of high humidity may cause injury to tender foliage.

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

The use of adjuvants may increase the potential for crop injury to sensitive crops.

Carefully observe label instructions for apple thinning to avoid excessive thinning.

#### APPLICATION INFORMATION AND RESTRICTIONS

SEVIN® SL brand Carbaryl Insecticide is a suspension of microfine SEVIN® brand carbaryl insecticide in an aqueous medium. It readily disperses in water to form a spray which may be applied with a variety of application equipment. Do not apply by hand or using spoon, belly grinder, power backpack sprayer, tree injection, or power handheld fogger.

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. If you should have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

**NOTE**: When treatment with SEVIN® SL has been completed, further irrigation over the treated area should be avoided for 24 to 48 hours to prevent washing the chemical off the crop.

#### **APPLICATION PROCEDURES**

Calibrate and adjust application equipment to insure proper rate and accurate placement. To clean spray system after use, drain and flush with a water and detergent mixture. Rinse thoroughly with clean water. Refer to the Storage and Disposal section for disposal instructions.

NOTE: Staining may occur on certain surfaces such as stucco, brick, cinder block, wood, fabrics, and carpet. Spray deposits on painted or stained surfaces or finishes (i.e., cars, houses, trailers, boats, etc.) should be immediately removed by washing to prevent discoloration. Avoid applications to surfaces where visible spray residues are objectionable. Staining of fabrics and carpet may be permanent. (Note: for outdoor use only)

#### MIXING, LOADING AND HANDLING INSTRUCTIONS

TO ASSURE A UNIFORM SUSPENSION, AGITATE, STIR OR RECIRCULATE ALL CONTAINERS OF THIS PRODUCT PRIOR TO 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® SL Carbaryl Insecticide, and then the remaining volume of water. Include rinse water from 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 also accelerate the degradation of spray mixtures containing carbaryl. See COMPATIBILITY STATEMENT below.

#### **COMPATIBILITY INFORMATION**

SEVIN® SL Carbaryl Insecticide, when diluted with at least an equal volume of water is compatible with a wide range of pesticides. It is not compatible with diesel fuel, kerosene, fuel oil or aromatic solvents. If compatibility with another product and the resulting crop response is unknown, the mixture should be tested on a small scale. Curdling, precipitation, greasing, layer formation or increased viscosity-are-symptoms of incompatibility. Incompatibility will reduce product performance and may cause application and handling difficulties or plant injury. Observe all cautions and limitations on labeling of all products used in mixtures. WHEN PREPARING COMBINATION SPRAYS, FIRST ADD SEVIN® SL CARBARYL INSECTICIDE TO AT LEAST AN EQUAL VOLUME 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 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 product performance.

#### RESISTANT SPECIES NOTICE

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 other armyworm species. Regional differences have been noted in the susceptibility of certain strains of fall armyworm, diamondback moth, Colorado potato beetle, Southern green stink bug, and spotted tentiform leafminer to carbaryl. If local experience indicates inadequate product performance, use an alternative pesticide.

#### APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS

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

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 that 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 nonuniform 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.

#### **USE SITES:**

Ornamental Trees and Plants

Turfarass

Brassica (Cole) Leafy Vegetable Crops

Fruiting Vegetables

Leafy Vegetables

Pasture and Grasses Grown for Seed

Rangeland

Forested Areas and Rangeland Trees

Noncropland (Conservation Reserve Program; Wasteland; Right-of-Way; Hedgerows; Ditchbanks; Roadsides)

Specific Pests across Multiple Sites

Imported Fire Ants

Ticks which may Vector Lyme Disease

Nuisance Pests Around Building Perimeters

Tree Fruit Crops (Citrus Fruits; Olives; Pome Fruits; Stone Fruits)

Tree Nut Crops (Pistachios; Tree Nuts)

Begin application when insect populations reach recognized economic threshold levels. Consult the Cooperative Extension Service, Consultants, or other qualified authorities to determine appropriate threshold levels for treatment and specific use information in your area. Where a dosage range is indicated, use the lower rate on light to moderate infestations, young plants and early instars and use the higher rate on heavy infestations, mature plants, advanced instars and adults. Thorough and uniform spray coverage is essential for effective product performance.

# **ORNAMENTAL TREES AND PLANTS**

Apply in sufficient volume for adequate coverage. This will vary depending on the plant or tree size, density, and stage of growth.

	PEST	QUARTS OF SEVIN® SL PER ACRE OR PER 100 GALLONS	DIRECTIONS
Ants*	Maple leafcutter	1 quart per acre	Observe plant response precautions.
Apple aphid	Mealy bugs	or	1
Armyworm	Mimosa webworm	per 100 gal	Obtain thorough coverage of upper and lower leaf
•	Nantucket pine tip	(3/4 fluid oz per 1000 ft²)	surfaces. The addition of a sticker may improve product
Ash whitefly	moth	(3/4 fidia 02 per 1000 ft )	performance.
Azalea leafminer			To kill scale insects, treat trunks, stems and twigs in
Bagworms	Oak leafminers		addition to plant foliage.
Balsam twig aphid	Oak moth	· ·	addition to plant foliage.
Birch leafminer	Oak skeletonizer		For best results on worms, treat when pests are small.
Blister beetle	Oakworm complex	<u>'</u>	Do not use an every producing every menter where con is
Boxelder bug	Oleander caterpillar		Do not use on syrup-producing sugar maples where sap is harvested. Make applications for maple leafcutter on
Boxwood leafminer	Olive ash borer		
Brown tail moth	Orange-striped	· ·	sugar maple when larvae are in 2nd instar after mining and
Catalpa sphinx	oakworm		as cases are being formed.
Chiggers*	Periodical cicada	j	Repeat treatments as necessary up to a total of 6 times per
Cooley spruce gall	Pine looper		year but not more often than once every 7 days.
adelgid	Pine sawfly		1 -
Cutworms	Pine spittlebug		For gypsy moths, use the higher rate for heavy
Cypress tip moth	Pitch pine tip moth		infestations
Douglas-fir tussock	Spruce budworm		•
moth	Plant bugs		· ·
Eastern spruce gall	Poinsettia hornworm		
adelgid	Psyllids		
Elm leaf aphid	Puss caterpillar		•
Elm leaf beetle	Redhumped oakworm	·	
Eriophyid mites	Rose aphid	·	
European pine shoot	Rose chafer	·	
moth	Rose slug		
Fall armyworm	Saddled prominent		
Flea beetle	Sawflies (exposed)	*	
Fuchia gall mite	Scale insects		
	(crawlers)		
Fuller rose beetle	` ,		
Gall midges	Sowbugs		
Gall wasps	Spiney elm caterpillar		
Glassy winged	Springtails		
sharpshooter	Spruce needleminer	•	
Greenstriped	Subtropical pine tip		
mapleworm	moth	•	
Grasshoppers	Tent caterpillars	·	
Hackberry nipplegall	Thorn bug		,
maker	Thrips (exposed)		
Holly bud moth	Walnut caterpillar	· ·	
Holly leafminer	Webworms	·	
Jackpine budworm	Western spruce	,	
Japanese beetle	budworm		
Jeffrey pine	Willow leaf beetles		
needleminer	Wooly gall aphid		
June beetles	Yellow poplar weevil		
Lace bugs	11		
Leafhoppers	İ	* *	
Leafrollers			
Locust borer			
		3/4 to 1 quart per acre	1
Gypsy Moth		or	
		per 100 gal (1/2 to 3/4 fluid oz per 1000 ft²)	
Ticks*		1 quart per acre or	*Will only kill pests that are present at the time of application and directly contacted by product.
•		per 100 gal	· ·
		por roo gar	

# ORNAMENTAL TREES AND PLANTS, CONTINUED

PEST	FL OZ OF SEVIN <sup>®</sup> SL PER GALLON	DIRECTIONS
Elm bark beetle	5 fl. oz. per gallon	Direct Trunk Treatment
Ips engraver beetles  Mountain pine beetle  Roundheaded pine		Effective as a preventative treatment only. Repeat annually as required to prevent beetle attacks.
beetle Spruce beetle Western pine beetle		Apply 1 gallon of spray per 50 square feet of bark prior to beetle flight or host-tree attack. Treat tree trunk from ground level up, until trunk diameter is less than 5 inches.
		For elm bark beetle: apply approximately 20-30 gallons of spray mixture for each 50 feet of elm tree for thorough coverage of all bark surfaces on trunks, limbs and twigs.
		Do not make more than 2 applications per year or repeat applications more often than once every six months.

#### **RESTRICTIONS: ORNAMENTAL TREES AND PLANTS**

- Do not make more than 6 foliar and 2 direct trunk applications per year.
- To prepare small volumes of spray mixture, use 1/3 fl: oz. (approximately 2 teaspoons) of this product in 1 gallon of water and apply to 500 sq. ft. where rates of 1 quart per acre are indicated.
- DO NOT ALLOW PUBLIC USE OF TREATED AREAS DURING APPLICATIONS OR UNTIL SPRAYS HAVE DRIED.
- Restricted-entry interval (REI) = 12 hours.
- EXCEPTION: the restricted-entry interval is 18 days for ornamentals grown for cuttings (cut flowers or cut foliage) where production is in outdoor areas and where average annual rainfall is less than 25 inches a year. Notify workers of the application and restricted-entry interval by warning them orally and by posting warning signs at entrances to treated area. Note: information on average annual rainfall for your area is available from any nearby weather bureau, such as one located at a local airport or one affiliated with the National Oceanographic and Atmospheric Administration (NOAA).
- BEE CAUTION: Do not apply this product to plants in bloom.

#### **TURFGRASS**

Apply using pressure-type equipment in sufficient spray volume for thorough coverage and thatch penetration.

Turfgrass: golf turf, sports fields, sod farms, domestic and commercial lawns, cemeteries, parks, campsites, recreational areas,

	PEST	QUARTS OF SEVIN <sup>®</sup> SL PER ACRE	DIRECTIONS
Ants* Armyworm Cutworms Essex skipper European chafer Fall armyworm Fiery skipper Grasshoppers Green June beetle larvae Leafhoppers  Centipedes* Chiggers* Earwigs	Lucerne moth Millipedes Mosquitoes (adults)* Scarab beetle adults (May beetle, June beetle, Japanese beetle, green June beetle) Sowbugs Spittlebugs Yellowstriped armyworm	2 to 4 quarts per acre  (1 1/2 to 3 fl.oz. per 1000 SQ.FT.)  4 quarts per acre (3 fl. oz. per 1000 SQ. FT.)	For Armyworm, Cutworm, and Fall Armyworm: Do not irrigate treated areas within 24 hrs. following insecticide application.  For Green June Beetle Grub (larvae): Make applications wher grubs are feeding near the soil surface. Water or irrigate turfgrass soon after treatment.  Repeat applications as necessary up to a total of 4 times per year but not more often than once every 7 days.
Ticks*		1 quart per acre (% fl. oz per1000 SQ. FT)	* Will only kill pests that are present at the time of application and directly contacted by product.
Chinch bugs Sod Webworm (lawn moths)		6 to 8 quarts per acre (4.4 to 6 fl.oz. per 1000 SQ.FT)	For Chinch bug: Treat entire grass area rather than just damaged areas. Irrigation prior to treatment will aid in penetration of insecticide into turfgrass. Do not irrigate treated areas within 24 hrs. following insecticide application.
Bluegrass billbug larvae European crane fly White grubs (Japanese beetle, Chafer beetle, and Phyllophaga spp. larvae)	Black turfgrass ataenius beetle larvae Hyperodes weevil (bluegrass weevil) larvae Springtails	8 quarts per acre (6 fl.oz. per 1000 SQ.FT.)	For European Crane Fly: Treatments should be applied in early spring, April 1 to April 15, or as recommended by local Agricultural Extension Service agents. Water or irrigate turfgrass soon after treatment.  For White Grub: Applications should be made when grubs are feeding near the soil surface, usually during late March through May, or July through early September, or as recommended by local Agricultural Extension Service agents. Water or irrigate turfgrass soon after treatment.  Repeat applications as necessary up to 2 times per year but not more often than once every 7 days.
Fleas*		8 quarts per acre (6 fl.oz. per 1000 SQ.FT.)	Will only kill pests that are present at the time of application and directly contacted by product.

#### **RESTRICTIONS: TURFGRASS**

- Broadcast applications to turfgrass are permitted only on golf courses, sod farms, cemeteries, and commercial landscapes. Applications to all other lawns or turf (residential settings) are limited to spot treatments.
- Restricted-entry interval (REI) for harvesting sod productions (sod farms) = 24 hours.
- DO NOT ALLOW PUBLIC USE OF TREATED AREAS DURING APPLICATIONS OR UNTIL SPRAYS HAVE DRIED.
- Do not apply by air or chemigation.
- BEE CAUTION: Do not apply this product to plants in bloom.

#### **BRASSICA LEAFY VEGETABLES CROPS**

All members of the Brassica (Cole) Leafy Vegetables Crop Group 5 including: Broccoli, Broccoli raab (rapini), Brussels sprouts, Cabbage, Cauliflower, Cavalo broccolo, Chinese broccoli (gai lon), Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens, Turnip greens.

PEST		QUARTS OF SEVIN <sup>®</sup> SL PER ACRE	DIRECTIONS
Flea beetles Harlequin bug Leafhoppers		1/2 to 1	Repeat applications as needed up to a total of 4 times but not more often than once every 7 days.
Armyworm Aster leafhopper Corn earworm Diamondback moth Fall armyworm Imported cabbageworm	Lygus bugs Spittle bugs Stink bugs Tarnished plant bug	1 to 2	

#### RESTRICTIONS: BRASSICA LEAFY VEGETABLES

- For Broccoli, Chinese broccoli (gai lon), Brussels sprouts, Cabbage, Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, and Kohlrabi, do not apply within 3 days of harvest.
- For Broccoli raab (rapini), Chinese cabbage (bok choy), Collards, Kale, Mizuna, Mustard greens, Mustard spinach, Rape greens, Turnip greens, do not apply within 14 days of harvest.
- Do not apply more than a total of 6 quarts per acre per crop per year.
- · Application is permitted only within 30 days from the date of crop emergence or the date of transplanting.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

#### FRUITING VEGETABLES

**All members of the Fruiting Vegetables Crop Group 8 including:** Eggplant, Groundcherry, Pepinos, Pepper (includes: bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato.

PEST		QUARTS OF SEVIN <sup>®</sup> SL PER ACRE	DIRECTIONS
Colorado potato beetle European corn borer Fall armyworm Lace bugs Stink bugs (suppression) Tarnished plant bug Thrips (suppression) Tomato fruitworm	Tomato hornworm Tomato pinworm	1 to 2	Repeat applications as necessary up to a total of 7 times but not more often than once every 7 days.  Thorough coverage is necessary to effectively suppress stink bugs.  When disease transmission is suspected, monitor fields following application and retreat if reinfestation occurs but not more often than once every 7 days.
Flea beetles Leafhoppers		1/2 to 1	·
Cutworms		2	For cutworm, this product is more effective against species which feed on the upper portions of the plant.

#### RESTRICTIONS: FRUITING VEGETABLES

- Do not apply within 3 days of harvest.
- Do not apply more than a total of 8 quarts per crop per year.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

## **LEAFY VEGETABLES**

Dandelion; Endive (escarole); Lettuce (head and leaf); Parsley; Spinach;

All members of the Leaf Petioles Vegetables Crop Subgroup 4B including: Cardoon, Celery, Celtuce, Chinese celery, Florence fennel (including sweet anise, sweet fennel, Finocchio), Rhubarb, Swiss chard.

PEST		QUARTS OF SEVIN <sup>®</sup> SL PER ACRE	DIRECTIONS
Flea beetles Harlequin bug Leafhoppers		1/2 to 1	Repeat applications as necessary up to a total of 5 times but not more often than once every 7 days.
Armyworm Aster leafhopper Corn earworm Fall armyworm Imported cabbageworm	Lygus bugs Spittlebugs Stink bugs Tarnished plant bug	1 to 2	

#### **RESTRICTIONS: LEAFY VEGETABLES**

- · Do not apply within 14 days of harvest.
- Do not apply more than a total of 6 quarts per acre per crop per year.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

# PASTURE AND GRASSES GROWN FOR HAY AND/OR SEED

PEST		QUARTS OF SEVIN <sup>®</sup> SL PER ACRE	DIRECTIONS
Armyworm Chinch bugs Essex skipper Fall armyworm Striped grass looper	Thrips Range caterpillar Range crane fly	1 to 1 1/2	Up to 2 applications per year may be made but not more often than once every 14 days.  To kill thrips in grasses grown for seed, use high spray pressure to improve penetration into boot.  Accurately mark swaths to avoid over-application.
Ticks*		1	* Will only kill pests that are present at the time of application and directly contacted by product.

#### RESTRICTIONS: PASTURE AND GRASSES GROWN FOR HAY AND/OR SEED

- Do not apply within 14 days of harvest or grazing.
- Do not exceed a total of 3 quarts per acre per year.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

## **RANGELAND**

	PEST	QUARTS OF SEVIN <sup>®</sup> SL PER ACRE	DIRECTIONS
Black grass bug	Range caterpillar Range crane fly	1/2 to 1	Do not make more than 1 application per year.  Accurately mark swaths to avoid over-application.
Grasshoppers Mormon cricket		1/2	Aerial application is allowed only through USDA APHIS and affiliated state grasshopper and Mormon Cricket suppression programs. Reduced Area and Agent Treatment (RAATs) is required. See the following web site for details — www.sidney.ars.usda.gove/Research/lockwood.htm
Ticks*		1 .	* Will only kill pests that are present at the time of application and directly contacted by product.

#### RESTRICTIONS: RANGELAND

- May be harvested or grazed the same day as treatment.
- Do not apply more than 1 quart per acre per year.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

#### FORESTED AREAS AND RANGELAND TREES

Apply in sufficient volume for adequate coverage. This will vary depending on the tree size, density and stage of growth.

Forested areas: Non-urban Forests, Tree Plantations, Planted Christmas Trees, Parks, Rural Shelter Belts; Rangeland Trees. PEST **QUARTS OF DIRECTIONS** SEVIN® SL PER ACRE Ants\* Maple leafcutter 1 quart per Observe plant response precautions. Apple aphid Mealy bugs acre Obtain thorough coverage of upper and lower leaf surfaces. Armyworm Mimosa webworm The addition of a sticker may improve product performance. (3/4 fl. oz per Ash whitefly Nantucket pine tip moth 1000 ft<sup>2</sup>) To kill scale insects, treat trunks, stems and twigs in addition Azalea leafminer Oak leafminers to plant foliage. **Bagworms** Oak moth Balsam twig aphid Oak skeletonizer For best results on worm, treat when pests are small. Birch leafminer Oakworm complex Do not use on syrup-producing sugar maples where sap is Blister beetle Oleander caterpillar harvested. Make applications for maple leafcutter on sugar Boxelder bug Olive ash borer maple when larvae are in 2nd instar after mining and as Boxwood leafminer Orange-striped cases are being formed. Brown tail moth oakworm Repeat treatments as necessary up to a total of 2 times per Catalpa sphinx Periodical cicada year but not more often than once every 7 days. Pine looper Chiggers Cooley spruce gall Pine sawfly For gypsy moths, use the higher rate for heavy infestations. adelgid Pine spittlebua Cutworms Pitch pine tip moth Spruce budworm Cypress tip moth Douglas-fir tussock moth Plant bugs Poinsettia hornworm Eastern spruce gall adelgid Psyllids Elm leaf aphid Puss caterpillar Elm leaf beetle Redhumped oakworm Eriophyid mites Rose aphid European pine shoot Rose chafer Rose slug moth Fall armyworm Saddled prominent Flea beetle Sawflies (exposed) Fuschia gall mite Scale insects Fuller rose beetle (crawlers) Sowbugs Gall midges Spiney elm caterpillar Gall wasps Greenstriped mapleworm Springtails Spruce needleminer Grasshoppers Subtropical pine tip Hackberry nipplegall moth. maker Tent caterpillars Holly bud moth Holly leafminer Thorn bug Jackpine budworm Thrips (exposed) Japanese beetle Walnut caterpillar Jeffrey pine needleminer Webworms June beetles Western spruce Lace bugs budworm Leafhoppers Willow leaf beetles Leafrollers Wooly gall aphid Yellow poplar weevil Locust borer 3/4 to 1 quart Gypsy Moth per acre (1/2 to 3/4 fl. oz per 1000 ft<sup>2</sup>) \* Will only kill pests that are present at the time of application Ticks\* 1 quart per and directly contacted by product. acre (3/4 fl. oz per 1000 ft<sup>2</sup>)

## FORESTED AREAS AND RANGELAND TREES, CONTINUED

PEST	FL OZ OF SEVIN® SL PER GALLON	DIRECTIONS
Elm bark beetle Ips engraver beetles Mountain pine beetle	5 fluid ounces per gallon	Direct Trunk Treatment:  Effective as a preventative treatment only. Repeat annually as required to prevent beetle attacks.
Roundheaded pine beetle Spruce beetle	•	Apply 1 gallon of spray per 50 square feet of bark prior to beetle flight or host-tree attack. Treat tree trunk from ground level up, until trunk diameter is less than 5 inches.
Western pine beetle	÷	For elm bark beetle: apply approximately 20-30 gallons of spray mixture for each 50 feet of elm tree for thorough coverage of all bark surfaces on trunks, limbs and twigs.
		Do not make more than 2 applications per year or repeat applications more often than once every six months.

#### **RESTRICTIONS: FORESTED AREAS AND RANGELAND TREES**

- Do not make more than 2 applications per year.
- To prepare small volumes of spray mixture use 1/3 fl. oz. (approximately 2 teaspoons) of this product in an adequate amount of water and apply to 500 sq. ft. where rates of 1 quart per acre are indicated.
- DO NOT ALLOW PUBLIC USE OF TREATED AREAS DURING APPLICATIONS OR UNTIL SPRAYS HAVE DRIED.
- BEE CAUTION: Do not apply this product to plants in bloom.

#### **NON CROPLAND**

Non Cropland : Conservation Reserve Program Acreage, Set-Aside Program Acreage, Wasteland, Rights-of-Way, Hedgerows Ditchbanks, Roadsides

PEST		QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS
Black grass bug		1/4 to ½ quart per acre	Up to 2 applications per year may be made but not more often than once every 14 days.
		(3/16 to 3/8 fl. oz per 1000 ft <sup>2</sup> )	Accurately mark swaths to avoid over-application.  Aerial application is allowed only through USDA APHIS and
Mormon cricket		1/2 quart per acre (3/8 fl. oz per 1000 ft <sup>2</sup> )	affiliated state grasshopper and Mormon Cricket suppression programs. Reduced Area and Agent Treatment (RAATs) is required. See the following web site for details –
Range caterpillar		1/2 to 1 quart per	www.sidney.ars.usda.gove/Research/lockwood.htm
Range crane fly	•	acre	
	3	(3/8 to 3/4 fl. oz per 1000 ft <sup>2</sup> )	
Ticks*		1 quart per acre	* Will only kill pests that are present at the time of
		(3/4 fl. oz per 1000 ft <sup>2</sup> )	application and directly contacted by product.

#### **RESTRICTIONS: NONCROPLAND**

- Do not apply within 14 days of grazing or harvest for forage or hay.
- Do not apply more than a total of 2 quarts per acre per year.
- BEE CAUTION: Do not apply this product to plants in bloom

#### TREE FRUIT CROPS

On all tree fruit crops, apply in sufficient volume for adequate coverage. This will vary depending on the pest and its severity, the tree condition, size, and density.

[For label with non-agricultural (non-commercial) tree crops: Not for use on trees intended for resale of produce or other commercial use. Not for use on trees covering areas greater than 1000 ft<sup>2</sup>].

#### **CITRUS FRUITS**

All members of the Citrus Fruits Crop Group 10 including: Calamondin, Citrus citron, Citrus hybrids (Citrus spp., includes chironja, tangelo and tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (sweet and sour), Pummelo, Tangelo, Satsuma mandarin, White sapote (Casimiroa spp.), and other cultivars and/or hybrids of these.

PI	PEST		DIRECTIONS
Avocado leafroller California orangedog Citrus cutworm Fruittree leafroller	Orange Tortrix Western tussock moth	2 to 3 quarts per acre (1 1/2 to 2 1/4 fl. oz. per 1000 ft <sup>2</sup> )	OBSERVE BEE CAUTION.  Repeat applications as necessary up to a total of 8 times but not more often than once every 14 days.
Citrus rust mite Eriophyid mites	Plant bugs Scale insects [such as Black scale, brown soft scale, California red scale (except in California), citrus snow scale, yellow scale (except in California)]	3 to 5 quarts per acre (2 1/4 to 3 3/4 fl. oz. per 1000 ft <sup>2</sup> ))	For scale, apply when crawlers are present.  For best results on Eriophyid mites, including citrus rust mite, apply when pest populations are low.
Apopka weevil (adult) Citrus root weevils (adults)	Fuller Rose Beetle Little leaf notcher (adult)	5 quarts per acre (3 3/4 fl. oz. per 1000 ft²)	
California Only California red scale	Yellow scale	5 to 12 quarts per acre (3 3/4 to 9 fl. oz. per 1000 ft²)	Do not make more than 1 application per season for California red scale. Apply when crawlers are present.

#### **RESTRICTIONS: CITRUS FRUITS**

- Do not apply within 5 days of harvest.
- In California only: Restricted-entry interval (REI)= 3 days. Do not apply more than 12 quarts per acre per crop per year.
- <u>All Other States</u>: REI = 12 hours. Do not apply more than 5 quarts per acre per application. Do not apply more than a total of 20 quarts per acre per crop per year.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom. [For label with agricultural (commercial) tree crops: Mowing weeds or cover crop bloom prior to applying this product will reduce hazard to bees.] [For label with non-agricultural (non-commercial) tree crops: Not for use on trees intended for resale of produce or other commercial use. Not for use on trees covering areas greater than 1000 ft<sup>2</sup>]

## **OLIVES**

PEST	QUARTS OF SEVIN <sup>®</sup> SL PER ACRE	DIRECTIONS
Scale insects (olive scale, black scale)	5 to 7 ½ quarts per acre (3 3/4 to 5 1/2 fl. oz. per 1000 ft²)	Up to 2 applications per crop may be made but not more often than once every 14 days.

#### **RESTRICTIONS: OLIVES**

- Do not apply within 14 days of harvest.
- Do not apply more than a total of 15 quarts per acre per crop per year.
- Restricted-entry interval (REI) = 3 days (72 hours).

BEE CAUTION: Do not apply this product to target crops or weeds in bloom. [For label with non-agricultural (non-commercial) tree crops: Not for use on trees intended for resale of produce or other commercial use. Not for use on trees covering areas greater than 1000 ft<sup>2</sup>].

#### **POME FRUITS**

#### Apple, Crabapple, Loquat, Pear, Oriental pear.

CROP	PE	ST	QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS
Pome Fruits: Apples, Pears, Loquats,	White apple leafhopper		½ to 1 ½ quarts per acre (3/8 to 1 1/8 fl. oz. per 1000 ft²)	OBSERVE BEE CAUTION  On apples, avoid use during the period from full bloom until 30 days after full bloom unless fruit thinning is desired. Use during this period also may result in fruit removal.
Crabapples, Oriental Pears	Apple aphid	Codling moth	1 to 3 quarts per acre (3/4 to 2 1/4 fl. oz. per 1000 ft <sup>2</sup> )	Repeat applications as necessary up to a total of 8 times per crop (including thinning sprays on apples) but not more often than once every 14 days.  For psylla, apply when eggs hatch or young
	Apple aphid Apple maggot Apple maggot Apple mealybug Apple rust mite Bagworms California pearslug (pear sawfly) European apple sawfly Eyespotted bud moth Fruittree leafroller Gypsy moth Japanese beetle Lesser appleworm Lygus bugs Orange tortrix	Pearleaf blister mite Pear psylla Pear rust mite Periodical cicada Plum curculio Redbanded leafroller Rosy apply aphid Scale insects (Forbes scale, Lecanium scale, San Jose scale) Tarnished plant bug Tentiform leafminers Woolly apple aphid Yellowheaded fireworm	1 ½ to 3 quarts per acre (1 1/8 to 2 1/4 fl. oz. per 1000 ft <sup>2</sup> )	nymphs are present. For scale, apply when crawlers are present.

# POME FRUITS (continued)

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CROP	PEST	QUARTS OF SEVIN <sup>®</sup> SL PER ACRE	DIRECTIONS
Apples Only, for		1 to 3 quarts	OBSERVE BEE CAUTION
Fruit Thinning		per acre (3/4 to 2 1/4 fl. oz. per 1000 ft <sup>2</sup> )	Apply 1 to 3 quarts per acre of SEVIN® SL between 80% petal fall and 16 mm fruit size. Use the higher rates on hard to thin varieties at the early timing which is the 80% petal fall to 6 mm fruit size. Use the lower rates on easy to thin varieties and at the later thinning period which is the 10 to 16 mm fruit size. The rate to use per acre will depend on varieties, tree size, row spacing, weather conditions at the time of and following applications. Consult with the local fruit thinning experts in your area for the proper rate to use under your conditions.
			The best spray gallonage will depend on the tree size, planting density, row spacing and amount of foliage. Use sufficient spray volume to insure adequate coverage (100 to 400 gallons/acre). Avoid spray to the point of runoff. Reduce spray coverage to the lower portion of the tree since overthinning may occur here.
		·	Factors such as climatic temperature, high humidity, frost, tree age, variety, nutrition, previous crop, pruning and bloom may influence fruit thinning results with the product. Exercise caution to avoid possible overthinning. For the most effective results, apply under good drying conditions and when daytime temperatures (°F) will be 70 to low 80's for the following one to three days. Application with daytime temperatures in excess of 80°F may result in overthinning.
	·		SEVIN® SL may be mixed with other fruit thinners, however, use caution to avoid overthinning and other adverse effects. Consult with local fruit thinning experts in your area for recommendations. Refer to the other product labels for specific use directions.
			Consult with local fruit thinning experts in your area for advice on the proper use of this product on your varieties under your growing conditions.
			CAUTION: The use of SEVIN® SL may result in fruit deformity under certain environmental conditions. Before using on any variety of apples, the user must weigh the risk versus benefits when using this product, particularly when using between 80% petal fall and 6 mm fruit size. Red Delicious are more sensitive to this phenomenon and in particular, the varieties Bisbee, Red Chief and Vallee Spur are very susceptible to conditions causing fruit deformity. Precipitation and temperatures below 65° F increases the possibility of fruit deformity. The use with summer spray oils and wetting agents may increase the risk of fruit deformity and injury.

#### **RESTRICTIONS: POME FRUITS**

- Do not apply to Quince.
- Do not use on pears between the tight flower cluster up to the 20mm fruit size. Use during this period may result in undesirable fruit thinning and/or deformed fruit.
- Do not apply within 3 days of harvest.
- Do not apply more than a total of 15 quarts per acre or 11 1/4 fl. oz. per 1000 sq. ft. per crop per year.
- Do not make more than a total of 8 applications per crop per year.

BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

[For label with agricultural (commercial) tree crops: If weed or cover crop bloom is present, mow the orchard floor or between rows prior to applying this product.

#### For Apple Thinning Use:

For airblast application, follow the following drift management practices:

- Do not apply during bloom. Remove beehives from orchard to be treated before applying this product. Removing beehives from adjacent orchards will further minimize risk to bees.
- · Adjust deflectors and aiming devices so that spray is only directed into the canopy;

- Block off upward pointed nozzles when there is no overhanging canopy;
- Do not allow the spray to go beyond the edge of the cultivated area (i.e., turn off sprayer when turning at end rows);
- · For applications to the outside rows, only spray inward, toward the orchard.]

[For label with non-agricultural (non-commercial) tree crops: Not for use on trees intended for resale of produce or other commercial use. Not for use on trees covering areas greater than 1000 ft<sup>2</sup>].

#### STONE FRUITS

All members of the Stone Fruits Crop Group 12 including: Apricot, Cherry (including sweet and tart), Nectarine, Peach, Plum (including Chickasaw, Damson and Japanese). Plumcot, Prune (fresh and dried).

PEST		QUARTS OF SEVIN <sup>®</sup> SL PER ACRE	DIRECTIONS
Apple pandemis Black cherry aphid Cherry fruitworm Cherry maggot (Cherry fruit fly) Codling moth Cucumber beetles Eastern tent caterpillar Eyespotted bud moth European earwig Fruittree leafroller Green fruitworm Gypsy moth Japanese beetle June beetle Lesser peachtree borer Mealy plum aphid	Orange tortrix Oriental fruit moth Peach twig borer Periodical cicada Plum curculio Prune leafhopper Redbanded leafroller Rose chafer Scale insects (Brown soft scale, Forbes scale, Lecanium scale, Olive scale, Oystershell scale, San Jose scale) Tarnished plant bug Tussock moth Variegated leafroller	2 to 3 quarts per acre (1 1/2 to 2 1/4 fl. oz. per 1000 ft²)	OBSERVE BEE CAUTION.  Repeat applications as necessary up to a total of 3 times per crop but not more often than once every 7 days. An additional application at the dormant or delayed dormant timing may be made.  For best results on scale, apply when crawlers are present.  For lesser peachtree borer, best results have been found by thoroughly spraying limbs and tree trunks at weekly intervals during moth flight.
Californ Black cherry aphid Cherry fruitworm Cherry maggot (Cherry fruit fly) Codling moth Cucumber beetles Eyespotted bud moth European earwig Fruittree leafroller Green fruitworm Mealy plum aphid	oriental fruit moth Peach twig borer Scale insects (Brown soft scale, Forbes scale, Lecanium scale, Olive scale, Oystershell scale, San Jose scale) Tarnished plant bug Tussock moth	3 to 4 quarts per acre (2 1/4 to 3 fl. oz. per 1000 ft <sup>2</sup> )	OBSERVE BEE CAUTION.  Repeat applications as necessary up to a total of 3 times per crop but not more often than once every 14 days. An additional application at the dormant or delayed dormant timing may be made.  For best results on scale, apply when crawlers are present.
Orange tortrix  Peach twig borer Scale insects (Brown soft scale, Forbes scale, Lecanium scale, Olive scale, Oystershell scale, San Jose scale)		4 to 5 quarts per acre (3 to 3 3/4 fl. oz. Per 1000 ft²)	For dormant or delayed dormant timing, apply in combination with recommended dormant oil. Refer to the dormant oil product label for additional use directions and restrictions.

#### **RESTRICTIONS: STONE FRUIT**

- Do not apply within 3 days of harvest, except in California. In California, do not apply within 1 day of harvest.
- Do not apply more than a total of 14 quarts per acre or 10 1/2 fluid ounces per 1000 sq. ft. per crop per year.
- Do not apply more than a total of 5 quarts per acre or 3 3/4 fluid ounces per 1000 sq. ft. per year at the dormant or delayed dormant timing.
- · Do not apply more than a total of 9 quarts per acre or 6 3/4 fluid ounces per 1000 sq. ft. per year during the production season.
- In California only: Do not apply more than 4 quarts per acre per application during the production season.
- · All States other than California: Do not apply more than 3 quarts per acre per application during the production season.

BEE CAUTION: Do not apply this product to target crops or weeds in bloom. [For label with agricultural (commercial) tree crops: If weed or cover crop bloom is present, mow the orchard floor or between rows prior to applying this product.] [For label with non-agricultural (non-commercial) tree crops: Not for use on trees intended for resale of produce or other commercial use. Not for use on trees covering areas greater than 1000 ft<sup>2</sup>):

#### TREE NUT CROPS

On all tree nut crops, apply in-sufficient volume for adequate-coverage. This will vary depending on the pest and its severity, the tree condition, size, and density, and other factors.

#### **PISTACHIOS**

PEST	QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS
Brown soft scale Lecanium scale Navel orangeworm	3 to 5 quarts per acre (2 1/4 to 3 3/4 fl. oz. per 1000 ft <sup>2</sup> )	Repeat applications as necessary up to a total of 4 times per crop (including any applications at the dormant or delayed dormant timing) but not more often than once every 7 days.  For scale, apply when crawlers are present.
Scale insects	4 to 5 quarts per acre (3 to 3 3/4 fl. oz. per 1000 ft²)	For dormant or delayed dormant timing, apply in combination with a recommended dormant oil. Refer to the dormant oil product label for additional use directions and restrictions.

#### **RESTRICTIONS: PISTACHIOS**

- · Do not apply within 14 days of harvest.
- Do not apply more than a total of 15 quarts per acre or 11 1/4 fluid ounces per 1000 sq. ft. per crop per year, including any application at the dormant or delayed dormant timing.

BEE CAUTION: Do not apply this product to target crops or weeds in bloom. [For label with agricultural (commercial) tree crops:If weed or cover crop bloom is present, mow the orchard floor or between rows prior to applying this product.] [For label with non-agricultural (non-commercial) tree crops: Not for use on trees intended for resale of produce or other commercial use. Not for use on trees covering areas greater than 1000 ft<sup>2</sup>].

#### TREE NUTS

CROP	PEST	QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS
Tree Nuts Crop Group: Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory nut, Macadamia nut (bush nut), Pecan, Walnut [including black and English (Persian) walnuts].	Black margined aphid Calico scale Codling moth European fruit lecanium Fall webworm Filbert leafroller Filbertworm Frosted scale Fruittree leafroller Hickory shuckworm Lesser webworm Navel orangeworm Peach twig borer Pecan leaf phylloxera Pecan stem phylloxera Pecan nut casebearer Pecan spittlebug Pecan weevil San Jose scale Twig girdler Walnut caterpillar	2 to 5 quarts per acre (1 1/2 to 3 ¾ fl. oz. per 1000 SQ.FT.)	OBSERVE BEE CAUTION  Repeat applications as necessary up to a total of 4 times per crop (including any applications at the dormant or delayed dormant timing) but not more often than once every 7 days.  Use lower rates for pests attacking leaves. Use higher rates for pests attacking fruit and for higher infestations.  For scale, apply when crawlers are present.  For peach twig borer, best results with foliar applications have been found by making applications in "popcorn" or petal fall stages when the May brood begins to hatch.  For navel orangeworm in almonds and walnuts, best results have been found by timing early and midseason applications to correspond with moth flight peaks.  For filbert leafroller, best results have been found by making applications when eggs are hatching, repeating application on first appearance of moths and again 3 to 4 weeks later:  For codling moth in walnuts, best results have been found by making applications when average cross-sectional diameters of
	Chestnut weevil European earwig	4 to 5 quarts per acre (3 to 3 3/4 fl. oz. per 1000	developing nuts are 0.5 to 0.75 inches and again during middle or late June as needed.  For chestnut weevil, best results have been found with 4 applications at weekly intervals beginning in late July. The last application should be made prior to shuck split.
Almonds only	Peach twig borer Scale insects	SQ.FT.)  4 to 5 quarts per acre (3 to 3 3/4 fl. oz. per 1000 SQ.FT.)	For European earwig, thorough coverage of trunks, branches, and nuts is needed for best results.  For dormant or delayed dormant timing, apply in combination with a recommended dormant oil. Refer to the dormant oil product label for additional use directions and restrictions.

#### **RESTRICTIONS: TREE NUTS**

- Do not apply within 14 days of harvest.
- Do not apply more than a total of 15 quarts per acre or 11 1/4 fluid ounces per 1000 sq. ft. per crop per year, including any application at the dormant or delayed dormant timing.

BEE CAUTION: Do not apply this product to target crops or weeds in bloom. [For label with agricultural (commercial) tree crops: If weed or cover crop bloom is present, mow the orchard floor or between rows prior to applying this product.] [For label with non-agricultural (non-commercial) tree crops: Not for use on trees intended for resale of produce or other commercial use. Not for use on trees covering areas greater than 1000 ft<sup>2</sup>].

#### SPECIFIC PESTS ACROSS MULTIPLE SITES

#### TICKS-WHICH MAY VECTOR LYME-DISEASE

To kill juvenile and adult ticks which may vector Lyme Disease, apply in sufficient volume for thorough coverage\*. Will only kill pests that are present at the time of application and directly contacted by product.

All crops/sites on this label including; Pastures; Forested Areas, Wasteland, Rights-of-Way, Hedgerows, Ditchbanks, Roadsides,

Set-Aside and Conservation Reserve Program Acreage, Trees and Ornamentals, Turfgrass\*\*.

PEST	QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS*
Ixodes spp. (Deer tick, Bear tick, Black legged tick)  Amblyomma spp. (Lone star tick)	1 quart per acre (3/4 fl. oz. per 1000 ft²)	To kill juvenile ticks, apply in late spring or early summer. To kill adult tick can be obtained with late summer and fall applications.  Treat entire area and perimeter areas where exposure to ticks may occur. Ticks may be reintroduced from surrounding areas on host animals. Retreat as necessary to maintain low population levels.

#### RESTRICTIONS: TICKS WHICH MAY VECTOR LYME DISEASE

- \* Refer to individual site listings elsewhere on this label for use restrictions. Do not use rates higher than listed for the site or exceed other use restrictions. If control of ticks is intended on any use site listed on this label, the use rate must not exceed 1 quart per acre (1 lb a.i./acre).
  - \*\* Broadcast applications to turfgrass are permitted only on golf courses, sod farms, cemeteries, and commercial landscapes. Applications to all other lawns or turf (residential settings) are limited to spot treatments.
- DO NOT ALLOW PUBLIC USE OF TREATED AREAS DURING APPLICATION OR UNTIL SPRAYS HAVE DRIED.

#### IMPORTED FIRE ANTS

#### All crops/sites on this label\*

PEST	FL OZ OF SEVIN® SL PER GALLON	DIRECTIONS
Imported fire ants	3/4 fl. oz. per gallon	DRENCH APPLICATION:  To kill active mounds, 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 areas to a 4 ft diameter (12 sq.ft.). Do not disturb mound prior to treatment. Pour solution from a height of about three feet 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 30 days. Treat new mounds as they appear. Pressurized sprays may disturb the ants and cause migration, reducing product effectiveness.
Imported fire ants (foraging)	1 ½ fl. oz. per gallon	FOLIAR APPLICATION: (outdoor use only):  Treat only the growing media when using on bedding plants and avoid contact with foliage. Do not make more than one application.

#### **RESTRICTIONS: IMPORTED FIRE ANTS**

- DO NOT ALLOW PUBLIC USE OF TREATED AREAS DURING APPLICATIONS OR UNTIL DRENCH HAS DRIED.
- DO NOT USE IN GREENHOUSES.
- \*NOTE: DO NOT USE ON ANY FOOD CROP NOT LISTED ON THIS LABEL. Refer to the specific crop section for additional restrictions and precautions.
- To prepare small amounts, use 3/4 fluid ounce (approximately 1 1/2 tablespoons) of SEVIN® SL Carbaryl Insecticide per each gallon of mix where 1 1/2 quarts per 100 gallons are indicated.

#### **NUISANCE PESTS**

For use as a perimeter treatment to kill the listed nuisance pests, apply the specified dosage in a band 6 to 10 feet wide around the outside perimeter of the structure.

PEST	RATE OF SEVIN® SL	DIRECTIONS
Ants* Bees* Brown dog tick* Centipedes* Cockroaches* Crickets Darkling beetle (lesser mealworm or litter beetle) Earwigs Firebrats Fleas* Millipedes Scorpions* Silverfish* Spiders* Wasps*	2 1/2 fl. oz. per gallon	Observe plant response precautions.  Apply as a coarse wet spray in a band 6 to 10 feed wide around the outside perimeter of buildings, contacting as many pests as possible. Confine applications to areas immediately adjacent to the building. Direct application to the structure should be minimal and restricted to cracks, crevices, and areas where insects tend to congregate.  For use in and around flower beds and ornamental plantings, apply as a coarse wet spray.

#### **RESTRICTIONS: NUISANCE PESTS**

- DO NOT ALLOW PUBLIC USE OF TREATED AREAS DURING APPLICATIONS OR UNTIL SPRAYS HAVE DRIED.
- NOTE: Staining may occur on certain surfaces such as stucco, brick, cinder block, wood, fabrics, and carpet. Spray deposits on painted or stained surfaces of finishes (e.g. cars, house trailers, boats, etc.) should be removed immediately by washing to prevent discoloration. Avoid application to surfaces where visible spray residues are objectionable. Staining of fabrics and carpet may be permanent.

<sup>\*</sup> Will only kill pests that are present at the time of application and directly contacted by product.

#### IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product.

If terms are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, because of manner of use and other factors beyond Bayer CropScience LP's control it is impossible for Bayer CropScience LP to eliminate all risks associated with the use of this product. As a result, crop injury or ineffectiveness is always possible. All such risks shall be assumed by the user or buyer.

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#### **NET CONTENTS:**

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# **Bayer Environmental Science**

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Sevin SL Carbaryl Insecticide (PENDING) 03/31/09, Resubmitted 04/30/09, Resubmitted 06/04/09, Resubmitted 06/16/09