

432-1227

4/21/2009

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

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

April 21, 2009

Bayer Environmental Science
P.O. Box 12014, 2 T.W. Alexander Drive
Research Triangle Park
NC 27709

Subject: Notification Dated April 21, 2009

Dear Mr. Mattern,

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 4/21/09 for the product Sevin SL Carbaryl Insecticide, EPA Reg. No. 432-1227. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

If you have any questions, please call me directly at 703-305-6736 or electronically at Edwards.joanne@epa.gov.

Sincerely,

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

Joanne Edwards
Insecticide-Rodenticide Branch
Registration Division (7505P)
Office of Pesticide Programs

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United States
Environmental Protection Agency
 Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 432-1227	2. EPA Product Manager John Hebert	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Sevin SL Carbaryl Insecticide	PM# 7	
5. Name and Address of Applicant (Include ZIP Code) Bayer Environmental Science P.O. Box 12014, 2 T.W. Alexander Drive Research Triangle Park, NC 27709 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: NOTIFICATION EPA Reg. No. _____ Product Name <u>APR 21 2009</u>	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input checked="" type="checkbox"/> Resubmission in response to Agency letter dated <u>3/03/09</u>	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Resubmission of Notification originally submitted on 2/12/09 (addition of optional statement on page 1 ("Includes Residential Turf Spot Treatments"]) with corrected certification statement (below). Please note that the pet sleeping quarters use (Nuisance Pest section on page 22) has been removed to comply with the 3/18/09 use termination order. This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40CFR part 152.46, and no other changes have been made to the labeling or the Confidential Statement of Formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR part 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under section 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
* Certification must be submitted	If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	<input type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/>	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Gregory C. Mattern		Title Regulatory Product Manager		Telephone No. (Include Area Code) (919) 549-2630	
<p align="center">Certification</p> <p>I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.</p>					6. Date Application Received (Stamped) 4/21/09
2. Signature		3. Title Regulatory Product Manager			
4. Typed Name Gregory C. Mattern		5. Date April 21, 2009			

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NOTIFICATION

APR 21 2009

SEVIN® SL Carbaryl Insecticide

INTENDED FOR AGRICULTURAL OR COMMERCIAL USE

[Includes Residential Turf Spot Treatments]

ACTIVE INGREDIENT:

Carbaryl (1-naphthyl N-methylcarbamate) 43.0% by wt.

INERT INGREDIENTS: 57.0% by wt.

(Contains 4 Pounds Carbaryl Per Gallon)

EPA Reg. No. 432-1227

EPA Est. No. 264-MO-02

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 1-800-334-9745

FIRST AID

IF SWALLOWED:	<ul style="list-style-type: none"> • 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 CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.

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:

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- 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 plus

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.

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.

ENGINEERING CONTROLS STATEMENT

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 CFR 170.240(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,

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- 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.

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.

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 labels 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 labels 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 cautions. 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.

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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

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.

PREHARVEST AND GRAZING RESTRICTIONS AND LIMITATIONS

Tolerances established under the Federal Food, Drug and Cosmetic Act permit the sale of labeled crops bearing probable carbaryl residues when this product is used in accordance with the label directions. If used as directed, treated forage may be grazed or used as feed for dairy and meat animals without causing illegal residues in meat or milk. Do not apply at greater rates or at more frequent intervals than stated on the label. To do so may result in illegal residues in crops, meat, and 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. Combinations with certain herbicides on rice and soybeans may be phytotoxic. Refer to specific directions for appropriate crop.

GENERAL APPLICATION INFORMATION

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 mechanical or hand-operated application equipment.

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.

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:

- Trees and Ornamentals
- Turfgrass
- 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.

TREES AND ORNAMENTALS

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

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

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	Ticks*	1 quart per acre or per 100 gal (3/4 fluid oz per 1000 ft ²)	*Will only kill pests that are present at the time of application and directly contacted by product.
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TREES AND ORNAMENTALS, CONTINUED

CROP	PEST	FL OZ OF SEVIN® SL PER GALLON	DIRECTIONS
Trees and Ornamentals: Roses, Flowers, Other Herbaceous Plants, Woody Plants, and Shrubs	Elm bark beetle Ips engraver beetles Mountain pine beetle Roundheaded pine beetle Spruce beetle Western pine beetle	5 fluid ounces per gallon	Direct Trunk Treatment: Effective as a preventative 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 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: TREES AND ORNAMENTALS

- 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 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.**
- 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 the recommended rates 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® SL PER ACRE	DIRECTIONS
Ants Armyworm Cutworms Essex skipper European chafer Fall armyworm Fiery skipper Grasshoppers Green June beetle larvae Leafhoppers 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.)	<p>For Armyworm, Cutworm, and Fall Armyworm: Do not irrigate treated areas within 24 hrs. following insecticide application.</p> <p>For Green June Beetle Grub (larvae): Make applications when grubs are feeding near the soil surface. Water or irrigate turfgrass soon after treatment.</p> <p>Repeat applications as necessary up to a total of 4 times per year but not more often than once every 7 days.</p>
Centipedes* Chiggers* Earwigs	4 quarts per acre (3 fl. oz. per 1000 SQ. FT.)	<p>* Will only kill pests that are present at the time of application and directly contacted by product.</p>
Ticks*	1 quart per acre (¼ fl. oz. per 1000 SQ. FT.)*	
Chinch bugs Sod Webworm (lawn moths)	6 to 8 quarts per acre (4.4 to 6 fl.oz. per 1000 SQ.FT)	<p>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.</p>
Bluegrass billbug larvae European crane fly White grubs (Japanese beetle, Chafer beetle, and <i>Phyllophaga</i> spp. larvae) Black turfgrass ataenius beetle larvae Hyperodes weevil (bluegrass weevil) larvae Springtails	8 quarts per acre (6 fl.oz. per 1000 SQ.FT.)	<p>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.</p> <p>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.</p> <p>Repeat applications as necessary up to 2 times per year but not more often than once every 7 days.</p>
Fleas*	8 quarts per acre (6 fl.oz. per 1000 SQ.FT.)	<p>* Will only kill pests that are present at the time of application and directly contacted by product.</p>

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® 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.
- Application is permitted only within 30 days from the date of crop emergence or the date of transplanting.
- **BEE CAUTION:** For crops in bloom: 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® 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.
- **BEE CAUTION:** For crops in bloom: 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® 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.
- BEE CAUTION: For crops in bloom: 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® 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. Carefully 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: For crops in bloom: Do not apply this product to target crops or weeds in bloom.

RANGELAND

PEST		QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS
Black grass bug Grasshoppers Mormon cricket	Range caterpillar Range crane fly	1/2 to 1	Do not make more than 1 application per year. Carefully 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: RANGELAND

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

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

FORESTED AREAS AND RANGELAND TREES, CONTINUED

CROP	PEST	FL OZ OF SEVIN® SL PER GALLON	DIRECTIONS
Forested areas: Non-urban Forests, Tree Plantations, Planted Christmas Trees, Parks, Rural Shelter Belts Rangeland Trees	Elm bark beetle Ips engraver beetles Mountain pine beetle Roundheaded pine beetle Spruce beetle Western pine beetle	5 fluid ounces per gallon	<p>Direct Trunk Treatment: Effective as a preventative treatment only. Repeat annually as required to prevent beetle attacks.</p> <p>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.</p> <p>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.</p> <p>Do not make more than 2 applications per year or repeat applications more often than once every six months.</p>

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

CROP	PEST	QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS
Conservation Reserve Program Acreage	Black grass bug	1/4 to 1/2 quart per acre (3/16 to 3/8 fl. oz per 1000 ft ²)	Up to 2 applications per year may be made but not more often than once every 14 days.
Set-Aside Program Acreage Wasteland	Mormon cricket Range caterpillar Range crane fly	1/2 to 1 quart per acre (3/8 to 3/4 fl. oz per 1000 ft ²)	Carefully mark swaths to avoid over-application.
Rights-of-Way Hedgerows Ditchbanks Roadsides	Ticks*	1 quart per acre (3/4 fl. oz per 1000 ft ²)	* Will only kill pests that are present at the time of 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, and other factors.

[For labels 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 ft²].

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.

CROP	PEST	QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS	
Citrus Fruits	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 ²)	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 ²)	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 ft ²)	
	California Only California red scale	Yellow scale	5 to 12 quarts per acre (3 3/4 to 9 fl. oz. per 1000 ft ²)	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.
- Do not apply more than a total of 20 quarts per acre per crop.
- In California only: For application rates \geq 7.5 quarts/acre, restricted-entry interval REI=3 days. Do not apply more than 12 quarts per acre per application.
- All Other States: REI = 12 hours. Do not apply more than 5 quarts per acre per application.
- **BEE CAUTION:** For crops in bloom: Do not apply this product to target crops or weeds in bloom. [For labels with agricultural (commercial) tree crops: Mowing weeds or cover crop bloom prior to applying this product will reduce hazard to bees.] [For labels 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 ft²]

**POME FRUITS
(continued)**

CROP	PEST	QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS
Apples Only, for Fruit Thinning		1 to 3 quarts per acre (3/4 to 2 1/4 fl. oz. per 1000 ft ²)	<p>OBSERVE BEE CAUTION</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>

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
- Do not make more than a total of 8 applications per crop.

For Protection of Bees: For crops in bloom: Do not apply this product to target crops or weeds in bloom.

[For labels 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 labels 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 ft²].

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).

CROP	PEST	QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS	
Stone Fruits: Apricots, Cherries, Nectarines, Peaches, Plums, and Prunes	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 ft ²)	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.
	California Only:		3 to 4 quarts per acre (2 1/4 to 3 fl. oz. per 1000 ft ²)	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.
	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 ft ²)	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.
- Do not apply more than a total of 5 quarts per acre or 3 3/4 fluid ounces per 1000 sq. ft. 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. 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: For crops in bloom: Do not apply this product to target crops or weeds in bloom. [For labels 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 labels 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 ft²].

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

CROP	PEST	QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS
Pistachios	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 ²)	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 ft ²)	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, including any application at the dormant or delayed dormant timing.

BEE CAUTION: For crops in bloom: Do not apply this product to target crops or weeds in bloom. [For labels 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 labels 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 ft².]

TREE NUTS

All members of the Tree Nuts Crop Group 14 including: 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].

CROP	PEST	QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS
Tree Nuts: Almonds, Chestnuts, Filberts, Pecans, 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 3/4 fl. oz. per 1000 SQ.FT.)	<p>OBSERVE BEE CAUTION</p> <p>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.</p> <p>Use lower rates for pests attacking leaves. Use higher rates for pests attacking fruit and for higher infestations.</p> <p>For scale, apply when crawlers are present.</p> <p>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.</p> <p>For navel orangeworm in almonds and walnuts, best results have been found by timing early and midseason applications to correspond with moth flight peaks.</p> <p>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.</p> <p>For codling moth in walnuts, best results have been found by making applications when average cross-sectional diameters of developing nuts are 0.5 to 0.75 inches and again during middle or late June as needed.</p>
	Chestnut weevil European earwig	4 to 5 quarts per acre (3 to 3 3/4 fl. oz. per 1000 SQ.FT.)	<p>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.</p> <p>For European earwig, thorough coverage of trunks, branches, and nuts is needed for best results.</p>
Almonds only	Peach twig borer Scale insects	4 to 5 quarts per acre (3 to 3 3/4 fl. oz. per 1000 SQ.FT.)	<p>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.</p>

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, including any application at the dormant or delayed dormant timing.

BEE CAUTION: For crops in bloom: Do not apply this product to target crops or weeds in bloom. [For labels 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 labels 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 ft².]

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 on this label; Pastures; Forested Areas; Wasteland, (Rights-of-Way, Hedgerows, Ditchbanks, Roadsides, Set-Aside and Conservation Reserve Program Acreage); Trees and Ornamentals; Turfgrass.**

CROP/SITE	PEST	QUARTS OF SEVIN® SL PER ACRE	DIRECTIONS*
All crops/sites on this label	<i>Ixodes</i> spp. (Deer tick, Bear tick, Black legged tick) <i>Amblyomma</i> spp. (Lone star tick)	1 quart per acre (3/4 fl. oz. per 1000 ft ²)	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.
- ** 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

CROP/SITE	PEST	FL OZ OF SEVIN® SL PER GALLON	DIRECTIONS
All crops/sites on this label	Imported fire ants	3/4 fluid ounce 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.
All crops/sites on this label	Imported fire ants (foraging)	1 1/2 fluid ounce 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 fluid ounces per gallon	Observe plant response precautions. Apply as a coarse wet spray in a band 6 to 10 feet 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. Do not treat animals and do not allow animals to use treated area until sprays have dried.

RESTRICTIONS AND PRECAUTIONS: 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.
- ** Will only kill pests that are present at the time of application and directly contacted by product.

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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.

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