

16-176

06/25/2001

1/18



U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505C)
1200 Pennsylvania Avenue NW
Washington, D.C. 20460

EPA Reg. Number:

Date of Issuance:

16-176

06/25/2001

Term of Issuance:

Conditional

NOTICE OF PESTICIDE:

Registration
 Reregistration

Name of Pesticide Product:

Carbaryl
80WP (Wettable
Powder)

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Dragon Chemical Corporation
71 Carolyn Blvd.
Farmingdale, NY 11735-1527

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 registered/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.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.

2. Make the following label changes before you release the product for shipment:

- a. Correct the EPA Registration Number to read, "EPA Reg. No. 16-176".
- b. Under the heading "TREES AND ORNAMENTALS" on page 11 correct the pest "tip moth" to be "Nantucket pine tip moth".

3. Submit two copies of the revised final printed label for the record before you release the product for shipment. The final printed labels should have each page complete as specified in comment 17 of the EPA Letter dated June 7, 2001. A copy of the label stamped "Accepted With Comments" is enclosed for your records.

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

<p>Signature of Approving Official: <i>George Tompkins</i> George Tompkins, Ph.D., Entomologist Insecticide-Rodenticide Branch Registration Division (7505C)</p>	<p>Date: JUN 25 2001</p>
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3/18

CARBARYL 80WP (Wettable Powder)

FOR AGRICULTURAL OR COMMERCIAL USE ONLY

ACTIVE INGREDIENT:

Carbaryl (1-naphthyl N-methylcarbamate)..... 80% by wt.

INERT INGREDIENTS: 20% by wt.

TOTAL 100% by wt.

EPA Reg. No. 16-XX.....EPA Est. No. 16VA-01

KEEP OUT OF REACH OF CHILDREN

WARNING

(If you do not understand the label, find someone to explain it to you in detail)

FOR ADDITIONAL PRECAUTIONARY STATEMENTS:

See Inside Booklet

For PRODUCT USE Information call: 800-533-2488

For **MEDICAL** and **TRANSPORTATION** Emergencies ONLY

Call 24 Hours a Day Chemtrec 800-424-9300

DRAGON CHEMICAL CORP.

7033 Walrond Drive NW, Roanoke, VA 24019-7311

Tel: 540-362-3657

Fax: 540-362-5762

**ACCEPTED
with COMMENTS
In EPA Letter Dated:**

JUN 25 2001

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

16-176

STATEMENT OF PRACTICAL TREATMENT

Carbaryl is an N-Methyl Carbamate Insecticide.

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

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

IF ON SKIN: Wash thoroughly with soap and water.

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

GENERAL

Contact a physician immediately in all cases of suspected poisoning. Transport to a physician or hospital immediately and SHOW A COPY OF THIS LABEL TO THE PHYSICIAN. If poisoning is suspected in animals, contact a veterinarian.

ANTIDOTE STATEMENT

ATROPINE SULFATE IS HIGHLY EFFECTIVE AS AN ANTIDOTE. See NOTE TO PHYSICIAN.

NOTE TO PHYSICIAN

Treat symptomatically. Overexposure to materials other than this product may have occurred. Carbaryl is a N-methyl carbamate insecticide, which is a cholinesterase inhibitor. Overexposure to this substance may cause toxic signs and symptoms due to stimulation of the cholinergic nervous system. These effects of overexposure are spontaneously and rapidly reversible. Gastric lavage may be used if this product has been swallowed. Carbaryl poisoning may occur rapidly after ingestion and prompt removal of stomach contents is indicated.

Specific treatment consists of parenteral atropine sulfate. Caution should be maintained to prevent overatropinization. Improve tissue oxygenation as much as possible before administering atropine to minimize the risk of ventricular fibrillation. Mild cases may be given 1 to 2 mg intramuscularly every 10 minutes until full atropinization has been achieved and repeated thereafter whenever symptoms reappear. Severe cases should be given 2 to 4 mg intravenously every 10 minutes until fully atropinized, then intramuscularly every 30 to 60 minutes as needed to maintain the effect for at least 12 hours. Dosages for children should be appropriately reduced. Complete recovery from overexposure is to be expected within 24 hours.

Narcotics and other sedatives should not be used. Further, drugs like 2-PAM (pyridine-2-aldoxime methiodide) are NOT recommended.

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

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS (& DOMESTIC ANIMALS)

WARNING

MAY BE FATAL IF SWALLOWED. Harmful if absorbed through the skin, inhaled, or if in eyes. Do not breathe vapors, dust or spray mist. Do not take internally. Do not get in eyes, on skin or on 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, excess 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:

Applicators and other handlers must wear long-sleeved shirt and long pants, waterproof gloves, shoes plus socks and chemical-resistant headgear for overhead exposure.

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

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

The product is extremely toxic to aquatic and estuarine invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Discharge from rice fields may kill aquatic and estuarine invertebrates. Do not apply when weather conditions favor drift from area treated. 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 IN SUBSTANTIAL NUMBERS.

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

DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

Read the entire label before using this product.

Strictly observe label directions and cautions. Do not 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) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, waterproof gloves, shoes plus socks and chemical-resistant headgear for overhead exposure.

NON-AGRICULTURAL USE REQUIREMENTS

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

The area being treated must be vacated by unprotected persons.

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

STORAGE AND DISPOSAL

STORAGE

Store unused Carbaryl 80WP Insecticide 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. 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

Do not reuse outer bag. Dispose of outer bag in the trash, or if allowed by State and Local authorities, by burning. If outer bag is burned, stay out of smoke.

GENERAL CAUTIONS AND RESTRICTIONS

Carbaryl 80WP Insecticide is formulated as a dry powder containing 80% active ingredient and is packaged in water soluble packages (paks). Each pak contains 1.25 lbs of formulated product. Do not sell individual water soluble paks. Do not handle inner bag with wet hands or gloves. Do not allow paks to become wet prior to adding to the spray tank. Handle outer container (over wrap bag) carefully to avoid breakage of inner soluble packages. Always reseal outer (over wrap) bag in a manner that protects remaining packages from moisture. Do not remove the water soluble paks from the container except for immediate use. Use the entire contents of a water soluble pak, do not break open to use partial contents of a water soluble pak.

This product readily disperses in water to form a spray which may be applied by ground equipment. Do not apply this product by aircraft.

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 are stated on the label. To do so may result in illegal residues in crops, meat, and milk.

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

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

6/18

PLANT RESPONSE PRECAUTIONS

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.

APPLICATION STATEMENTS

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, and wood. Spray deposits on painted or stained surfaces or finishes (e.g. cars, houses, trailers, boats, etc.) should be immediately removed by washing to prevent discoloration. Avoid applications to surfaces where visible spray residues are objectionable.

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

MIXING, LOADING AND HANDLING INSTRUCTIONS

Remove oil, rust, scale, pesticide residues and other foreign matter from mix tanks and entire spray system. Flush with clean water. Consult the Specific Use Directions section of this label to determine the number of water soluble packages and spray volume required.

Fill the mixing tank partially ($\frac{1}{2}$ to $\frac{3}{4}$) with water. With the agitator on, slowly add the required number of unopened water soluble packages of Carbaryl 80WP into the mixing tank. Allow all the water soluble packages to dissolve and completely disperse. Depending upon the water temperature and the degree of agitation, the water soluble packages should be completely dissolved within 3 - 5 minutes. Continue agitation while adding the remainder of the water. Do not put water soluble packages close to the recirculating inlet and outlet, as they may block the line before being completely dissolved. Prepare only as much spray mixture as can be applied on the day of mixing. Do not use partial water soluble packages. 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.

TANK MIXING INSTRUCTIONS

Once the water soluble packages have completely dissolved, add other products in the following order: wettable powder, dry flowable (wetable granules), liquid flowable, liquids, and EC's. Always allow each tank mix partner to disperse fully before adding the next product.

COMPATIBILITY INFORMATION

Carbaryl 80WP, when diluted with at least an equal volume of water, is compatible with a wide range of commonly used 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 insect control 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 Carbaryl 80WP 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 insect control.

APPLICATION PROCEDURES AND PRECAUTIONS

On all crops use sufficient gallonage to obtain thorough and uniform coverage. Observe crop label instructions for specific directions regarding spray volume where they occur. Calibrate spray equipment to deliver the required volume. Use of 50 mesh slotted strainers in spray system and 25 mesh slotted strainers behind nozzles is recommended.

GROUND APPLICATION

Apply in sufficient volume for adequate coverage on all crops and sites.

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.

SPRAY PREPARATION: First prepare a suspension of Carbaryl 80WP in a mix tank. Fill tank with $\frac{1}{2}$ to $\frac{3}{4}$ the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of Carbaryl 80WP, and then the remaining volume of water. (Suspension concentrations using the appropriate dosage per acre recommended on this label of Carbaryl 80WP per 1 to 4 gallons of water are recommended). Then set sprinkler to deliver 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of Carbaryl 80WP into the irrigation water line so as to deliver the desired rate per acre. The suspension of Carbaryl 80WP should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. If you should have any other questions about calibration, you should contact your State Extension Service specialists, equipment manufacturers or other experts.

NOTE: When treatment with Carbaryl 80WP has been completed, further field irrigation over the treated area should be avoided for 24 to 48 hours to prevent washing the chemical off the crop.

GENERAL PRECAUTIONS FOR APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS

Maintain continuous agitation in mix tank during mixing and application to assure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by *injecting a larger volume of a more dilute solution per unit time.*

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shutdown. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment.

Do not apply when wind speed favors drift, when system connection or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from non-uniform distribution of treated water.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation shall shut the system down and make necessary adjustments should the need arise.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label-prescribed safety devices for public water supplies are in place.

SPECIFIC USE DIRECTIONS

CROP/SITE GROUPINGS:

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

Tree Nut Crops (Pistachios; Tree Nuts)

Trees and Ornamentals

Turfgrass

Control of Specific Pests Across Multiple Sites

 Ticks Which Vector Lyme Disease

 Imported Fire Ants

 Adult Mosquito Control

Nuisance Pest Control

INSECT CONTROL

Begin application when insect populations reach recognized economic threshold levels. Consult the Cooperative Extension Service, professional consultants or other qualified authorities to determine appropriate threshold levels for treatment 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 the higher rate on heavy infestations, mature plants, advanced instars and adults. Thorough and uniform spray coverage is essential for effective control.

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.

CITRUS FRUITS

CROP	PEST	POUNDS OF 80WP PER ACRE	ACRES TREATED PER PAK 80WP	SPECIFIC DIRECTIONS
Citrus Fruits	Avocado leafroller California orangedog Citrus cutworm Orange Tortrix Western tussock moth	2 ½ to 3 ¼	0.5 to 0.3	OBSERVE BEE CAUTION. Repeat applications as necessary but not more often than once every 14 days.
	Citrus rust mite Eriophyid mites Plant bugs Scale insects (Black scale, brown soft scale, California red scale (except in California), citrus snow scale, yellow scale (except in California))	3 ¾ to 6 ¼	0.3 to 0.2	For scale control, apply when crawlers are present. For best control of 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)	6 ¼ to 9 3/8	0.2 to 0.13	
	California only: California red scale Yellow scale	6 ¼ to 20	0.2 to 0.05	Do not make more than 1 application per season for California red scale. Apply when crawlers are present.

RESTRICTIONS AND PRECAUTIONS: CITRUS FRUITS

- Do not apply within 5 days of harvest.
- Do not apply more than a total of 25 pounds per acre per crop.

OLIVES

CROP	PEST	POUNDS OF 80WP PER ACRE	ACRES TREATED PER PAK 80WP	SPECIFIC DIRECTIONS
Olives	Scale insects (olive scale, black scale)	6 ¼ to 9 3/8	0.2 to 0.13	Up to 2 applications per crop may be made but not more often than once every 14 days.

RESTRICTIONS AND PRECAUTIONS: OLIVES

- Do not apply within 14 days of harvest.
- Do not apply more than a total of 18 ¾ pounds per acre per crop.

POME FRUITS					
CROP	PEST		POUNDS OF 80WP PER ACRE	ACRES TREATED PER PAK 80WP	SPECIFIC DIRECTIONS
Pome Fruits: apples, pears, loquats, crabapples, oriental pears	White apple leafhopper		5/8 to 1 7/8	1.8 to 0.67	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 for pest control during this period also may result in fruit removal. 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 control, apply when eggs hatch or young nymphs are present. For scale control, apply when crawlers are present.
	Apple aphid Coding moth		1 ¼ to 3 ¾	1.0 to 0.3	
	Apple aphid	Pearleaf blister mite	1 7/8 to 3 ¾	0.67 to 0.3	
Apple maggot	Pear psylla				
Apple mealybug	Pear rust mite				
Apple rust mite	Periodical cicada				
Bagworms	Plum curculio				
California pearslug (pear sawfly)	Redbanded leafroller				
European apple sawfly	Rosy apple aphid				
Eyespotted bud moth	Scale insects (Forbes scale, Lecanium scale, San Jose scale)				
Fruitree leafroller	Tarnished plant bug				
Gypsy moth	Tentiform leafminers				
Japanese beetle	Woolly apple aphid				
Lesser appleworm	Yellowheaded fireworm				
Lygus bugs					
Orange tortrix					

RESTRICTIONS AND PRECAUTIONS: 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 18 ¾ pounds per acre per crop.
- Do not make more than a total of 8 applications per crop.

FOR PROTECTION OF HONEY BEES:

- Remove all beehives from orchard to be treated prior to application.
- Do not apply this product if bees are actively foraging in orchard.
- If weed bloom is present mow the cover crop on the orchard floor prior to applying this product.

10/18

STONE FRUITS

CROP	PEST		POUNDS OF 80WP PER ACRE	ACRES TREATED PER PAK 80WP	SPECIFIC 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) Tamished plant bug Tussock moth Variegated leafroller	2 ½ to 3 ¼	0.5 to 0.3	<p>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.</p> <p>For optimum scale control, apply when crawlers are present.</p> <p>For lesser peachtree borer, best results have been found by thoroughly spraying limbs and tree trunks at weekly intervals during moth flight.</p>
CALIFORNIA ONLY:					
	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 Orange tortrix	Oriental fruit moth Peach twig borer Scale insects (Brown soft scale, Forbes scale, Lecanium scale, Olive scale, Oystershell scale, San Jose scale) Tamished plant bug Tussock moth	3 ¾ to 5	0.3 to 0.25	<p>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.</p> <p>For optimum scale control, apply when crawlers are present.</p>

Peach twig borer Scale insects (Brown soft scale, Forbes scale, Lecanium scale, Olive scale, Oystershell scale, San Jose scale)	5 to 6 ¼	0.25 to 0.2	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.
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RESTRICTIONS AND PRECAUTIONS: STONE FRUITS

- 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 17 ½ pounds per acre per crop.
- Do not apply more than a total of 6 ¼ pounds per acre at the dormant or delayed dormant timing.
- Do not apply more than a total of 11 ¼ pounds per acre during the production season.

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	POUNDS OF 80WP PER ACRE	ACRES TREATED PER PAK 80WP	SPECIFIC DIRECTIONS
Pistachios	Brown soft scale Lecanium scale Navel orangeworm	3 ¾ to 6 ¼	0.3 to 0.2	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 one every 7 days.
	Scale insects	5 to 6 ¼	0.25 to 0.2	For scale control, apply when crawlers are present. 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 AND PRECAUTIONS: PISTACHIOS

- Do not apply within 14 days of harvest.
- Do not apply more than a total of 18 ¾ pounds per acre per crop, including any application at the dormant or delayed dormant timing.

TREE NUTS

CROP	PEST	POUNDS OF 80WP PER ACRE	ACRES TREATED PER PAK 80WP	SPECIFIC DIRECTIONS
Tree Nuts: Almonds, Chestnuts, Filberts, Pecans, Walnuts	Black margined aphid Calico scale Codling moth European fruit lecanium Fall webworm Filbert aphid 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 ½ to 6 ¼	0.5 to 0.2	<p>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.</p> <p>Use lower rates for pests attacking leaves. Use higher rates for pests attacking fruit and for higher infestations.</p> <p>For scale control, 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	5 to 6 ¼	0.25 to 0.2	<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	5 to 6 ¼	0.25 to 0.2	<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 direction and restrictions.</p>

RESTRICTIONS AND PRECAUTIONS: TREE NUTS

- Do not apply within 14 days of harvest.
- Do not apply more than a total of 18 ¾ pounds per acre per crop, including any application at the dormant or delayed dormant timing.

TREES AND ORNAMENTALS

CROP	PEST		POUNDS OF 80WP PER ACRE	ACRES TREATED PER PAK 80WP	SPECIFIC DIRECTIONS
<p>TREES, Ornamentals (Roses, Flowers, Other Herbaceous Plants), Woody Plants, Shrubs in Commercial and Residential Areas and in Nursery Production Areas</p>	<p>Ants Apple aphid Armyworm Ash whitefly Azalea leafminer Bagworms Balsam twig aphid Birch leafminer Blister beetle Boxelder bug Boxwood leafminer Brown tail moth Cankerworms 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 Mealy bugs Mimosa webworm tip moth</p>	<p>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</p>	<p>1 ¼</p>	<p>1.0</p>	<p>Observe plant response precautions.</p> <p>Obtain thorough coverage of upper and lower leaf surfaces. The addition of a sticker may improve residual control.</p> <p>To control scale insects, treat trunks, stems and twigs in addition to plant foliage.</p> <p>For optimum worm control, treat when pests are small.</p> <p>Do not use on syrup-producing sugar maples where sap is harvested. Applications for control of maple leafcutter on sugar maple should be made when larvae are in 2nd instar after mining and as cases are being formed.</p> <p>Repeat treatments as necessary up to a total of 6 times per year but not more often than one every 7 days.</p> <p>For gypsy moth control, use the higher rate for heavy infestations.</p>

<p>Trees, Ornamentals (Roses, Flowers, Other Herbaceous Plants), Woody Plants, Shrubs in Commercial and Residential Areas and in Nursery Production Areas</p>	<p>Fall armyworm Flea beetle Fuschia gall mite Fuller rose beetle Gall midges Gall wasps Greenstriped mapleworm Grasshoppers Hackberry nippegall maker Holly bud moth Holly leafminer Jackpine budworm Japanese beetle Jeffrey pine needleminer June beetles Lace bugs Leathoppers Leafrollers Locust borer Maple leafcutter Sawflies (exposed)</p>	<p>Scale insects (crawlers) Sowbugs Spiney elm caterpillar Springtails Spruce needleminer Subtropical pine tip moth Tent caterpillars Thom bug Thrips (exposed) Ticks Walnut caterpillar Webworms Western hemlock looper Western spruce budworm Willow leaf beetle Wooly gall aphid Yellow poplar weevil</p>			
	<p>Gypsy Moth</p>		<p>9/10 to 1/4</p>	<p>1.4 to 1.0</p>	
	<p>Elm bark beetle Ips engraver beetles Mountain pine beetle Roundheaded pine beetle Spruce beetle Western pine beetle</p>		<p>2% solution 1 pak per 6.67 gallons</p>	<p>See Specific Directions</p>	<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 AND PRECAUTIONS: TREES AND ORNAMENTALS

- Do not make more than a total of 6 foliar and 2 direct trunk treatments per year.
- DO NOT ALLOW PUBLIC USE OF TREATED AREAS DURING APPLICATIONS OR UNTIL SPRAYS HAVE DRIED.

TURFGRASS

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

CROP	PEST		POUNDS OF 80WP PER ACRE	SQ. FT. TREATED PER PAK 80 WP	SPECIFIC DIRECTIONS
Turfgrass: golf turf, sports fields, sod farms, domestic and commercial lawns, cemeteries, parks, campsites, recreational areas.	Ants Armyworm Centipedes Chiggers Cutworms Earwigs 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 Springtails Ticks Yellowstriped armyworm	2 ½ to 5	11,000 to 22,000	<p>For Armyworm, Cutworm, and Fall Armyworm Control: Do not irrigate treated areas within 24 hrs. following insecticide application.</p> <p>For Green June Beetle Grub (larvae) Control: 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>
	Chinch bugs Sod Webworm (lawn moths)		7 ½ to 10	5,000 to 7,000	<p>For Chinch bug Control: 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 Fleas White grubs (Japanese beetle, Chafer beetle, and Phyllophaga spp. larvae) Black turfgrass ataenius Beetle larvae Hyperoides weevil (bluegrass weevil) larvae		10	5,000	<p>For European Crane Fly Control: Treatments should be applied in early spring, April 1 to April 15, or as recommended by local Agricultural Extension Service agents. Water or irrigate turfgrass soon after treatment.</p> <p>For White Grub Control: 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.</p>

RESTRICTIONS AND PRECAUTIONS: TURFGRASS

- DO NOT ALLOW PUBLIC USE OF TREATED AREAS DURING APPLICATIONS OR UNTIL SPRAYS HAVE DRIED.

CONTROL OF SPECIFIC PESTS ACROSS MULTIPLE SITES

CONTROL OF TICKS WHICH VECTOR LYME DISEASE

For control of juvenile and adult ticks which vector Lyme Disease, apply the recommended amount in sufficient volume for thorough coverage.

CROP/SITE	PEST	POUNDS OF 80WP PER ACRE	ACRES TREATED PER PAK 80WP	SPECIFIC DIRECTIONS
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	Ixodes spp. (Deer tick, Bear tick, Black legged tick) Amblyomma spp. (Lone star tick)	1 ¼ to 2 ½*	1.0 to 0.5	Use the high rate for heavy tick infestations.* Use higher spray volumes for dense ground cover or heavy leaf litter. Target applications for nymphal control in late spring or early summer. Control of adult tick can be obtained with late summer and fall applications. Do not use spot treatments. Treat entire area and perimeter areas where exposure to ticks may occur. Ticks may be reintroduced from surrounding areas on host animals. Re-treat as necessary to maintain adequate control levels.*

RESTRICTIONS AND PRECAUTIONS: CONTROL OF TICKS WHICH VECTOR LYME DISEASE

- ***NOTE:** Refer to individual site listings elsewhere on this label for use limitations and restrictions. Do not use rates higher than listed for the site or exceed other use restrictions.
- **DO NOT ALLOW PUBLIC USE OF TREATED AREAS DURING APPLICATION OR UNTIL SPRAYS HAVE DRIED.**

IMPORTED FIRE ANTS

CROP/SITE	PEST	POUNDS OF 80WP PER VOLUME OF WATER	AREA TREATED PER PAK 80WP	SPECIFIC DIRECTIONS
Pastures Rangeland Forested Areas Trees and Ornamentals Turfgrass Wasteland	Imported fire ants	1 pak per 67.6 gallons	See Specific Directions	DRENCH APPLICATION: 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 7 days. Treat new mounds as they appear.

				Pressurized sprays may disturb the ants and cause migration, reducing product effectiveness.
Nursery Stock, Vegetable Transplants*, Foliage Plants, Bedding Plants (Outdoor Use Only)	Imported fire ants	1 pak per 67.6 gallons	See Specific Directions	Avoid contact with foliage and treat only the growing media when using on bedding plants. Do not make more than one application, either as a root dip or drench treatments (applied to the point of saturation).

RESTRICTIONS AND PRECAUTIONS: IMPORTED FIRE ANT CONTROL

- 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.

ADULT MOSQUITO CONTROL

Apply in sufficient gallonage for thorough coverage.

CROP	PEST	POUNDS OF 80WP PER ACRE	ACRES TREATED PER PAK 80WP	SPECIFIC DIRECTIONS
Pastures Rangeland Forested Lands Trees and Ornamentals Turfgrass Wastelands	Mosquitoes (adults)	1/3 to 1 1/4*	1.0	OBSERVE BEE CAUTION. Treat shrubbery and areas where adult mosquitoes congregate. Treat when adult mosquitoes are active in early mornings or late evenings. Repeat applications as necessary*. Use 1/3 to 2/3 pounds per 100 gallons in mistblowers and 1 1/4 pounds per acre in low pressure ground sprayers.

RESTRICTIONS AND PRECAUTIONS: ADULT MOSQUITO CONTROL

- DO NOT ALLOW PUBLIC USE OF TREATED AREAS DURING APPLICATION OR UNTIL SPRAYS HAVE DRIED.
- CAUTION: May kill shrimp and crabs. Do not use in areas where these are important resources.
- *NOTE: Refer to individual site listings elsewhere on this label for use limitations and restrictions. Do not use rates higher than listed for the site or exceed other use restrictions.

NUISANCE PEST CONTROL

For use as a perimeter treatment to prevent infestations of buildings, apply the specified dosage in a band 6 to 10 feet wide around the outside perimeter of the structure.

PEST	RATE OF 80WP	GALLONS PER PAK 80WP	SPECIFIC 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% solution	13.3 gallons per pak	Observe plant response precautions. Apply as a coarse wet spray in a band 6 to 10 feet wide around the outside perimeter of buildings. 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 flowerbeds and ornamental plantings, apply as a coarse wet spray in and around plant beds. May be applied to outdoor sleeping quarters of pets. Do not treat animals. Do not allow animals to use treated area until sprays have dried.

RESTRICTIONS AND PRECAUTIONS: NUISANCE PEST CONTROL

- 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.

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants (a) that this product conforms to the chemical description on the label; (b) that this product is reasonably fit for the purposes set forth in the directions for use when it is used in accordance with such directions; and (c) that the directions, warnings and other statements on this label are based upon responsible experts' evaluation of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants, and of residues on food crops, and upon reports of field experience. Tests have not been made on all varieties or in all states or under all conditions. THE MANUFACTURER NEITHER MAKES NOR INTENDS, NOR DOES IT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE, ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND IT EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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

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