

# CARBARYL 4L

# INSECTICIDE INTENDED FOR AGRICULTURAL OR COMMERCIAL USE

## **ACTIVE INGREDIENTS:**

(Contains 4 pounds Carbaryl per Gallon)

# KEEP OUT OF REACH OF CHILDREN CAUTION

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-866-944-8565 For PRODUCT USE Information Call: 1-888-574-2878.

#### FIRST AID

## Carbaryl is an N-Methyl Carbamate Insecticide.

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• Immediately call a poison control center or doctor for treatment advice • Do not induce vomiting unless told to do so by a poison control center of	
<ul> <li>Have person sip a glass of water if able to swallow.</li> </ul>	
Do not give anything by mouth to an unconscious person.	
If on skin • Take off contaminated clothing.	
or clothing: • Rinse skin immediately with plenty of water for 15-20 minutes.	
Call a poison control center or doctor for treatment advice.	
If inhaled: • Move person to fresh air.	
• If person is not breathing, call 911 or an ambulance, then give artificial	al
respiration, preferably mouth-to-mouth if possible.	
<ul> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>	
If in eyes: • Hold eye open and rinse slowly and gently with water for 15-20 minut	es.
<ul> <li>Remove contact lenses, if present, after the first 5 minutes, then continued.</li> </ul>	inue
rinsing eye.	
Call a poison control center or doctor for treatment advice.	

## For MEDICAL Emergencies Call 24 Hours A Day 1-866-944-8565.

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. Consultation on therapy can be obtained at all hours by calling the appropriate emergency number 1-866-944-8565 (U.S.A.)

EPA REG. NO. 34704-447 EPA EST. NO. 264-MO-003 NET CONTENTS 2½ GALS. (9.46.L)

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS & DOMESTIC ANIMALS CAUTION

Harmful if swallowed, absorbed through the skin, or inhaled. Avoid breathing spray mist. Avoid contact with skin, eyes, or clothing.

**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 made of any waterproof material. If you want more options, follow the instructions for category A 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 CARBARYL 4L insecticide per acre must wear:

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

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

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

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

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

#### See engineering controls for additional requirements and exceptions.

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. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

#### **ENGINEERING CONTROLS:**

Pilots must use an enclosed cockpit in a manner that is consistent with the WPS for Agricultural Pesticides [40 CFR 170.240(d)(6)].

Applicators using airblast equipment for application to citrus in California must use an enclosed cab that meets the definition in the Worker Protection Standard for Agricultural Pesticides [40 CFR 170.240(d)(5)] for dermal protection. In addition, such applicators must:

- wear long-sleeve shirt, long pants, shoes, and socks;
- either 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, 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, 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 programs. 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 programs must use an enclosed cab that meets the definition in the Worker Protection Standard for Agricultural Pesticides [40 CFR 170.240(d)(5)] for dermal protection. In addition, flaggers must:

- wear long-sleeve shirt, long pants, shoes, and socks;
- either wear 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 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, have immediately available for use, and wear in an emergency when they must exit the cab in the treated area: chemical-resistant gloves and chemical-resistant headgear, and, if using an enclosed cab that provides respiratory protection, a respirator of the type specified above;
- take off any PPE that was worn in the treated area before reentering the cab; and
- store all such PPE in a chemical-resistant container, such as a plastic bag, to prevent contamination of the inside of the cab.

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

#### **USER SAFETY RECOMMENDATIONS**

#### **Users should:**

- Wash hands thoroughly with soap and water before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### **ENVIRONMENTAL HAZARDS**

This product is extremely toxic to aquatic invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Discharge from rice fields may kill aquatic and estuarine invertebrates. Do not apply when weather conditions favor drift from area treated. Drift and runoff 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. Notifying beekeepers within 1 mile of treatment area at least 48 hours before product is

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 crops in bloom (except soybean and corn): Do not apply this product to target crops or weeds in bloom.

For soybean and corn: If application cannot be avoided when target crop or weeds are in bloom, limiting applications to times when bees are least active, e.g. within 2 hours of sunrise or sunset, will minimize risk to bees.

#### **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.** 

#### INFORMATION AND RESTRICTIONS

CARBARYL 4L insecticide is a suspension of microfine SEVIN® Carbaryl insecticide in an aqueous medium. It readily disperses in water to form a spray which may be applied by air or ground.

#### 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.

#### PREHARVEST AND GRAZING RESTRICTIONS AND LIMITATIONS

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

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

#### APPLICATION INFORMATION

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 (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. For outdoor use only.

## **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 and Southern green stink bug to carbaryl. If local experience indicates inadequate product performance, use an alternative pesticide.

#### 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 Carbaryl 4L 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 INFORMATION below.

#### **COMPATIBILITY INFORMATION**

Carbaryl 4L 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 Carbaryl 4L 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.

#### **APPLICATION PROCEDURES**

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. The flow rate of this product diluted 1:1 with water is similar to water. 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.

#### **AERIAL APPLICATION**

For adequate distribution, use at least 10 gallons of spray mixture per acre for application for tree and orchard crops or at least 2 gallons of spray mixture per acre for application to other crops. **EXCEPTION:** For the use on rangeland as a pest management approach for grasshoppers under the Reduced Area and Agent Treatments (RAATs) program **only**, use at least 16 ounces of finished spray mixture per acre for aerial application.

#### 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 4L insecticide in a mix tank. Fill tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of Carbaryl 4L insecticide, and then the remaining volume of water. (Suspension concentrations using the appropriate dosage per acre recommended on this label of Carbaryl 4L insecticide 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 4L insecticide into the irrigation water line so as to deliver the desired rate per acre. The suspension of Carbaryl 4L insecticide 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 Cooperative Extension Service Specialists equipment manufacturers or other experts.

**NOTE:** When treatment with Carbaryl 4L insecticide 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.

#### 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, 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.

#### SPECIFIC USE DIRECTIONS

#### **USE SITES:**

Asparagus

Brassica Leafy Vegetables

Cereal Grain Crops (Field and Pop Corn; Grain Sorghum; Rice; Sweet Corn)

Cucurbit Vegetables

Flax

Forage Crops (Alfalfa, Clovers, Birdsfoot Trefoil; Pasture and Grasses Grown for Hay and/or Seed; Rangeland)

Fruiting Vegetables

Leafy Vegetables (Dandelion, Endive, Lettuce, Parsley, Spinach; Leaf Petiole Subgroup 4B)

Legume Vegetables (Edible-Podded Legume Vegetables; Dried Shelled Peas and Beans (except Soybean); Soybeans; Foliage of Legume Vegetables)

Noncropland (Conservation Reserve Program; Set-Aside Program Acreage; Wasteland; Rights-of-Way; Hedgerows; Ditchbanks; Roadsides)

Okra

Peanuts

Prickly Pear Cactus

Root and Tuber Crops (Root and Tuber Crops except Sugar Beets and Sweet Potatoes; Sugar Beets: Sweet Potatoes)

Small Fruits and Berries (Bushberries, Caneberries, Cranberries, Grapes, Strawberries)

Sunflower

Tobacco

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

Tree Nut Crops (Pistachios; Tree Nuts)

Forested Areas and Rangeland Trees

**Ornamental Trees and Plants** 

**Turfgrass** 

Specific Pests Across Multiple Sites

Grasshoppers

Ticks which Vector Lyme Disease

Imported Fire Ants

**Nuisance Pests** 

#### APPLICATION TIMING AND DIRECTIONS

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

## **ASPARAGUS**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Apache cicada Asparagus beetle Cutworms	1	Repeat applications as necessary up to a total of 3 times prior to harvest or a total of 5 applications per year to spears and ferns combined. Do not apply more than once every 3 days. For cutworm, this product is most effective against species which feed on the upper portions of the plant.
	2	Application to ferns or brush growth following harvest of spears: Repeat applications as necessary but not more often than every 7 days. Do not make more than a total of 5 applications per year to spears and ferns combined.

#### **RESTRICTIONS:** ASPARAGUS

- Do not apply within 1 day of harvest.
- Do not apply more than a total of 3 quarts per acre before harvest of spears.
- Do not apply more than a total of 5 quarts per acre per year.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

## BRASSICA LEAFY VEGETABLES CROPS

All members of the Brassica Leafy Vegetable 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 THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Flea beetles Harlequin bug Leafhoppers	1/2 to 1	Repeat applications as needed up to a total of 4 times per year 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 Head and Stem Brassica subgroup 5A [including 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 Leafy Brassica Greens subgroup 5B [Broccoli raab (*rapini*), Chinese cabbage (*bok choy*), Collards, Kale, Mizuna, Mustard greens, Mustard spinach, Rape greens, and Turnip greens], do not apply within 14 days of harvest.

## **RESTRICTIONS:** BRASSICA LEAFY VEGETABLES cont'd.:

- Do not apply more than a total of 6 quarts per acre per crop per year.
- Application is permitted only within 30 days from the date of crop emergence or the date of transplanting.
- **BEE CAUTION:** Do not apply this product to target crops or weeds in bloom.

## CEREAL GRAIN CROPS FIELD CORN AND POP CORN

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Armyworm	1 to 2	OBSERVE BEE CAUTION.
Chinch bugs Corn earworm		Repeat applications as needed up to a total of 4 times per year but not more often than once
Corn rootworm		every 14 days.
adults		Good timing and good coverage are essential for
Fall armyworm		effective product performance.
Flea beetles		For best results on chinch bug, use ground
Japanese beetle Sap beetles		equipment to apply at least 20 gallons of water per acre and direct spray toward stalk to provide
Southwestern		thorough coverage.
corn borer		For best results on European corn borer, do not
<u>Leafhoppers</u>	1.1/0.	apply in less than 3 gallons of water per acre by
European corn borer	1 1/2 to 2	air and 15 gallons of water by ground.
Western bean	2	For western bean cutworm, treat when infestation averages 15% and at 90 to 100% tassel
cutworm	_	emergence. Treatment after 100% silk
Cutworms		emergence will reduce effectiveness.
		For best results on cutworm, apply in a 12-inch
		band, over the row, using sufficient volume of
		water to obtain thorough coverage. For broadcast application, use at least 20 gallons by ground or 5
		gallons by air per acre.
		For cutworm, this product is most effective
		against species which feed on the upper portions
		of the plant.

## **RESTRICTIONS: FIELD AND POP CORN**

- Do not apply within 48 days of harvest of grain and fodder or within 14 days of harvest or grazing of forage or silage.
- Do not apply more than a total of 8 quarts per acre per crop per year.
- Hand harvesting is prohibited.
- Restricted-entry interval (REI) = 24 hours.
   EXCEPTION: the REI is 21 days for workers detasseling corn.
- BEE CAUTION: For corn: If application cannot be avoided when target crop or weeds are in bloom, limiting applications to times when bees are least active, e.g. within 2 hours of sunrise or sunset, will minimize risk to bees. 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.

#### **GRAIN SORGHUM**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Armyworm Chinch bugs Corn earworm Fall armyworm Stink bugs Webworms	1 to 2	Repeat applications as necessary up to a total of 4 times per year but not more often than once every 7 days.  Direct spray into forming heads for best results on insects attacking heads.  For best results on chinch bug, use high gallonage
Southwestern corn borer	1 1/2	ground application at the base of plants.  For cutworm, this product is most effective against
Cutworms	2	species which feed on the upper portions of the plant.

## **RESTRICTIONS: GRAIN SORGHUM**

- Do not apply within 21 days of harvest for grain or fodder or within 14 days of harvest or grazing of forage or silage.
- Do not apply more than a total of 6 quarts per acre per crop per year.
- **BEE CAUTION:** Do not apply this product to target crops or weeds in bloom.

## **RICE**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Armyworm Chinch bugs Fall armyworm Leafhoppers Stink bugs	1 to 1 1/2	Up to 2 applications per crop per year may be made but not more often than once every 7 days.
Tadpole shrimp	1 1/2	California only Up to 2 applications per crop per year may be made but not more often than once every 7 days. For best results on tadpole shrimp, apply to water when pest first appears.

#### **RESTRICTIONS:** RICE

- Do not apply within 14 days of harvest for grain or straw.
- Do not apply more than a total of 3 quarts per acre per crop per year (3 lb ai/A/Yr).
- Discharge from rice fields may kill shrimp, crabs, and crayfish.
- Do not apply propanil herbicides within 15 days before or after application of this product or plant injury will result.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

#### **SWEET CORN**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Armyworm Chinch bugs Corn earworm Corn rootworm adults Fall armyworm Flea beetles Japanese beetle Sap beetles Southwestern corn borer Leafhoppers	1 to 2	OBSERVE BEE CAUTION Repeat applications as necessary up to a total of 8 times per year but not more often than once every 3 days. Good timing and good coverage are essential for effective product performance. For insects attacking silks and ears, insecticide sprays should be applied starting when first silks appear and continuing until silks begin to dry. During silking, the minimum retreatment interval (3 days) may not provide adequate levels of protection under conditions of rapid growth or
European corn borer	1 1/2 to 2	severe pest pressure. The use of an alternative product should be considered in conjunction with
Western bean cutworm Cutworms	2	this product. For best results on chinch bug, use ground equipment to apply at least 20 gallons of water per acre and direct spray toward stalk to provide thorough coverage. For best results on European corn borer, do not apply in less than 3 gallons of water per acre by air and 15 gallons of water by ground. For western bean cutworm, treat when infestation average 15% and at 90 to 100% tassel emergence. Treatment after 100% silk emergence will reduce effectiveness. For best results on cutworm, apply in a 12-inch band, over the row, using sufficient volume of water to obtain thorough coverage. For broadcast application, use at least 20 gallons by ground or 5 gallons by air per acre. For cutworm, this product is most effective against species which feed on the upper portions of the plant.

## **RESTRICTIONS: SWEET CORN**

- Do not apply within 2 days of harvest of ears, within 14 days of harvest or grazing of forage, or within 48 days of harvest of fodder.
- Do not apply more than a total of 16 quarts per acre per crop per year.
- Hand harvesting is prohibited.
- Restricted-entry interval (REI) = 24 hours.
  - EXCEPTION: the REI is 21 days for workers detasseling corn.
- BEE CAUTION: For corn: If application cannot be avoided when target crop or weeds are in bloom, limiting applications to times when bees are least active, e.g. within 2 hours of sunrise or sunset, will minimize risk to bees. 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.

#### **CUCURBIT VEGETABLES**

All members of the Cucurbit Vegetable Group 9 including: Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Gourd (edible, includes hyotan, cucuzza, hechima, Chinese okra), *Momordica* spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (hybrids and/or cultivars of *Cucumis melo* including true cantaloupe, cantaloupe, casaba, Crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Squash (includes summer squash types such as: crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini, and winter squash types such as acorn squash, butternut squash, calabaza, cushaw, Hubbard squash, spaghetti squash), Watermelon (includes hybrids and/or varieties of *Citrullus lanatus*).

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Pickleworm	1/2 to 1	Repeat applications as necessary up to a total of
Melonworm		6 times per year but not more often than once
Cucumber beetles	1	every 7 days
Flea beetles		For best results on squash bugs, apply sufficient
Leafhoppers		spray volume for thorough coverage and time
Squash bugs		sprays for early morning or late afternoon.

## **RESTRICTIONS:** CUCURBIT VEGETABLES

- Do not apply within 3 days of harvest.
- Do not apply more than a total of 6 quarts per acre per crop per year.
- Observe plant response precautions.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

#### FLAX

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Armyworm	1 to 1 1/2	Up to 2 applications per crop per year may be made but not more often than once every 14 days.

#### **RESTRICTIONS:** FLAX

- DO NOT USE IN CALIFORNIA
- Do not apply within 42 days of harvest for seed or straw.
- Do not apply more than a total of 3 quarts per acre per crop per year.
- **BEE CAUTION:** Do not apply this product to target crops or weeds in bloom.

## FORAGE CROPS ALFALFA, CLOVERS, AND BIRDSFOOT TREFOIL

PEST	QUARTS OF THIS	SPECIFIC DIRECTIONS
	PRODUCT PER ACRE	
Blister beetles	1/2 to 1	OBSERVE BEE CAUTION.
Mexican bean		Observe plant response precautions.
_beetle		On dense growth, use 25 to 40 gallons of water
Alfalfa caterpillar	1	per acre with ground equipment to ensure
Bean leaf beetle		adequate coverage.
Cucumber beetles		For alfalfa weevil larvae, if pretreatment damage
Green		is extensive, cut alfalfa and treat the stubble. This
cloverworm		product is not effective against adult alfalfa
Japanese beetle		weevils.
Leafhoppers		For cutworm, this product is most effective
Potato leafhopper		against species which feed on the upper portions
Three cornered		of the plant.
alfalfa hopper		
Thrips		
Velvetbean		
caterpillar		
Alfalfa blotch	1 to 1 1/2	
leafminer		
Armyworm		
Cloverhead weevil		
Corn earworm		
Cutworms		
Egyptian alfalfa weevil larvae		
Essex skipper		
European alfalfa beetle		
Fall armyworm		
Lygus bugs		
Stink bugs		
Webworms		
Yellow striped		
armyworm		
Alfalfa weevil	1 to 1 1/2	
larvae (west of the		
Rocky Mountains)		
Alfalfa weevil	1 1/2	
larvae (east of the		
Rocky Mountains)		

## **RESTRICTIONS:** FORAGE CROPS

- Do not apply more than once per cutting per year.
- Do not apply within 7 days of harvest or grazing.
- Do not exceed 1 1/2 quarts per acre per cutting.
- Carbaryl may cause a temporary bleaching of tender alfalfa foliage.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

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

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Armyworm Chinch bugs Cereal rust mite 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 hay or seed, use high spray pressure to improve penetration into boot.  Accurately mark swaths to avoid over-application.  *Will kill only ticks present at the time of application and directly contacted by product.
Ticks*	1	

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

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

## **RANGELAND**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Black grass bug Range caterpillar Range crane fly	1/2 to 1	Do not make more than 1 application per year. Accurately mark swaths to avoid over-application. Aerial application is allowed only through USDA
Grasshoppers Mormon cricket	1/2	APHIS and affiliated state grasshopper and Mormon Cricket suppression programs. Reduced
Ticks**	1	Area and Agent Treatment (RAATs) is required. See the following web site for details – www.ars.gov/research.htm **Will kill only ticks present at the time of
		application and directly contacted by product.

## **RESTRICTIONS: RANGELAND**

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

## **FRUITING VEGETABLES**

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

Colorado potato beetle European corn borer	1 to 2	Repeat applications as necessary up to a total of 7 times per year but not more often than once
Fall armyworm Lace bugs Stink bugs (suppression) Tarnished plant bug Thrips (suppression) Tomato fruitworm Tomato hornworm Tomato pinworm Flea beetles Leafhoppers	1/2 to 1	every 7 days.  Thorough coverage is essential 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.  For cutworm, this product is most effective against species which feed on the upper portions of the plant.
Cutworms	2	

#### **RESTRICTIONS:** FRUITING VEGETABLES

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

## **LEAFY VEGETABLES**

Dandelion; Endive (escarole); Lettuce (head and leaf); Parsley; Spinach; All members of the Leaf Petiole Vegetable Subgroup 4B including: Cardoon, Celery, Celtuce, Chinese celery, Florence fennel (including sweet anise, sweet fennel, Finocchio), Rhubarb, Swiss chard.

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

**RESTRICTIONS:** LEAFY VEGETABLES • Do not apply within 14 days of harvest.

• Do not apply more than a total of 6 quarts per acre per crop per year.

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

#### **LEGUME VEGETABLES**

All members of the Edible Podded Legume Vegetable Subgroup 6A including: Phaseolus sp. including runner bean, snap bean, and wax bean; Vigna sp. including asparagus bean, Chinese longbean, moth bean, and yardlong bean; Pisum sp. including dwarf pea, edible-pod pea, snow pea, sugar snap pea; Jackbean; Pigeon pea; Soybean (immature seed); Sword bean;

All members of the Dried Shelled Legume Vegetable (except soybean) Subgroup 6C including: Lupinus sp. including grain lupin, sweet lupin, white lupin, and white sweet lupin; Phaseolus sp. including field bean, kidney bean, dry lima bean, navy bean, pinto bean, tepary bean; Vigna sp. including adzuki bean, blackeyed pea, catjang, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, Urd bean; Pisum sp. including dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea; Broad bean (dry); Chickpea (dry); Guar (dry); Lablab bean (dry); Lentil (dry); Pigeon pea (dry);

All members of the Foliage of Legume Vegetables Crop Group 7: Plant parts of any legume vegetables included in the legume vegetable (Crop Group 6) that will be used as animal feed; Soybeans.

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Bean leaf beetle Blister beetle Cucumber beetles Grape colaspis Green cloverworm Japanese beetle Mexican bean beetle Velvetbean caterpillar	1/2 to 1	Repeat applications as necessary up to a total of 4 times per year but not more often than once every 7 days.  For cutworm, this product is most effective against species which feed on the upper portions of the plant.  Use lower rates for light to moderate populations and smaller instars.  Use the higher rates for heavy populations and larger instars.
Corn earworm	1/2 to 1 1/2	
Alfalfa caterpillar Colorado potato beetle Flea beetles Leafhoppers Three cornered alfalfa hopper Thrips Western bean cutworm	1	
Armyworm Cutworms European corn borer Fall armyworm Stink bugs Tarnished plant bug Webworms	1 to 1 1/2	

#### LEGUME VEGETABLES

Sovbeans cont'd.:

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Alfalfa looper (suppression) Cowpea curculio (suppression) Painted lady (Thistle caterpillar) Pea leaf weevil Pea weevil Saltmarsh caterpillar Woollybean caterpillar Yellowstriped armyworm	1 1/2	Repeat applications as necessary up to a total of 4 times per year but not more often than once every 7 days. For cutworm, this product is most effective against species which feed on the upper portions of the plant. Use lower rates for light to moderate populations and smaller instars. Use the higher rates for heavy populations and larger instars.
California only: Corn earworm (suppression) Limabean podborer (suppression) Lygus bugs (suppression) Stink bugs (suppression)	1 1/2	

## **RESTRICTIONS:** LEGUME VEGETABLES

- Do not apply within 14 days of grazing or harvest for forage or within 3 days of harvest of fresh edible-podded beans or peas or within 21 days of harvest of dried beans or peas, seed, or hay.
- Do not apply more than a total of 6 quarts per acre per crop per year.
- Do not apply a combination of this product and 2,4-DB herbicides to soybeans as crop injury may result.
- Use on succulent, shelled peas and beans (Crop Subgroup 6B) is prohibited.
- Observe plant response precautions.
- DO NOT USE ON LENTILS IN CALIFORNIA
- **BEE CAUTION:** For crops in bloom (except soybeans): Do not apply this product to target crops or weeds in bloom.

For soybeans: If application cannot be avoided when target crop or weeds are in bloom, limiting applications to times when bees are least active, e.g. within 2 hours of sunrise or sunset, will minimize risk to bees.

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.

#### **NONCROPLAND**

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

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Black grass bug	1/4 to 1/2 qt per acre (3/16 to 3/8 fl oz per 1000 ft <sup>2</sup> )	Up to 2 applications per year may be made but not more often than once every 14 days.  Accurately mark swaths to avoid over-application.
Range caterpillar Range crane fly	1/2 to 1 qt per acre (3/8 to 3/4 fl oz per 1000 ft <sup>2</sup> )	* Will kill only pests that are present at the time of application and directly contacted by product.
Mormon cricket	1/2 qt per acre (3/8 fl oz per 1000 ft <sup>2</sup> )	
Ticks*	1 qt per acre (3/4 fl oz per 1000 ft <sup>2</sup> )	

## **RESTRICTIONS: NONCROPLAND**

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

#### **OKRA\***

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Corn earworm Stink bugs	1 to 1 1/2	Apply using ground equipment in sufficient volume to insure good coverage. Apply as needed on 6- to 8-day intervals. For grasshopper, refer to the general Grasshopper Section.

## **RESTRICTIONS: OKRA**

- Do not apply within 3 days of harvest.
- Do not apply more than a total of 6 quarts per acre per year.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.
- \* Use not permitted in CA.

#### **PEANUTS**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Blister beetles Mexican bean beetle	1/2 to 1	Repeat applications as necessary up to a total of 5 times per year but not more often than once every 7 days.
Alfalfa caterpillar Bean leaf beetle Cucumber beetle Green cloverworm Japanese beetle Leafhoppers Rednecked peanutworm Three cornered alfalfa hopper Thrips Velvetbean caterpillar	1	For best results on thrips, use directed or banded sprays with hollow cone spray nozzles. Ensure adequate coverage for the underside of leaves. For cutworm, this product is most effective against species which feed on the upper portions of the plant.
Armyworm Corn earworm Fall armyworm Stink bugs Webworms	1 to 1 1/2	
Whitefringed beetle adults Cutworms	2	

## **RESTRICTIONS: PEANUTS**

- Do not apply within 14 days of harvest.
- Do not apply more than a total of 8 quarts per acre per crop per year.
- Observe plant response precautions.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

#### **PRICKLY PEAR CACTUS**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Cochineal scale (crawlers)	2	Apply using ground equipment in sufficient volume to insure good coverage. Apply as needed on 7- to 10-day intervals. For grasshopper, refer to the general Grasshopper Section.

## **RESTRICTIONS:** PRICKLY PEAR CACTUS

- Do not apply within 3 days of harvest.
- Do not apply more than a total of 6 quarts per acre per year.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

# ROOT AND TUBER CROPS ROOT AND TUBER CROPS EXCEPT SUGAR BEETS AND SWEET POTATOES

All members of the Root and Tuber Vegetable Crop Group 1 except sugar beet and sweet potato: Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Beet (garden), Beet (sugar, root), Burdock (edible), Canna (edible, Queensland arrowroot), Carrot, Cassava (bitter & sweet), Celeriac (celery root), Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Ginger, Ginseng, Horseradish, Leren, Parsley (turnip-rooted), Parsnip, Potato, Radish, Oriental radish (daikon), Rutabaga, Salsify (black), Salsify (oyster plant), Salsify (Spanish), Skirret, Tanier (cocoyam), Turmeric, Turnip, Yam bean (jicama, manioc pea), Yam (true).

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Flea beetles Leafhoppers	1/2 to 1	Repeat applications as necessary up to a total of 6 times per year but not more often than once
Armyworm Aster leafhopper Colorado potato beetle Corn earworm Cutworms European corn borer Fall armyworm Lace bugs Lygus bugs Spittlebugs Stink bugs Tarnished plant bug	1 to 2	every 7 days. For cutworm, this product is most effective against species which feed on the upper portions of the plant.

**RESTRICTIONS:** ROOT AND TUBER CROPS EXCEPT SUGAR BEETS AND SWEET POTATOES

- Do not apply within 7 days of harvest.
- Do not apply more than a total of 6 quarts per acre per crop per year.
- **BEE CAUTION:** Do not apply this product to target crops or weeds in bloom.

#### **SUGAR BEETS**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Armyworm Beet leaf beetle Fall armyworm Flea beetles Leafhoppers Webworms	1 to 1 1/2	Repeat applications as necessary up to a total of 2 times per year but not more often than once every 14 days.  For cutworm, this product is most effective against species which feed on the upper portions of the plant.
Cutworms	1 1/2	'

## **RESTRICTIONS:** SUGAR BEETS

- Do not apply within 28 days of harvest for roots or forage.
- Do not apply more than a total of 3 quarts per acre per crop per year.
- **BEE CAUTION:** Do not apply this product to target crops or weeds in bloom.

#### **SWEET POTATOES**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Corn earworm Cucumber beetles Flea beetles Sweet potato hornworm Sweet potato weevil Tortoise beetles Whitefringed beetle	1 to 2	For foliar sprays, repeat applications as necessary up to a total of 8 times per year but not more often than once every 7 days.
Yellowstriped	2	
_armyworm		

## **RESTRICTIONS:** SWEET POTATOES

- Do not apply within 7 days of harvest.
- Do not apply more than a total of 8 quarts per acre per crop per year.
- BEE CAUTION: Do not apply this product to target crops or weeds in bloom.

#### **SMALL FRUITS AND BERRIES**

## All members of the Caneberry Subgroup 13-07A including:

Blackberry (*Rubus* spp. - including Andean Blackberry, Arctic blackberry, Bingleberry, Black satin berry, Boysenberry, Brombeere, California blackberry, Chesterberry, Cherokee blackberry, Cheyene blackberry, Common blackberry, Coryberry, Darrowberry, Dewberry, Dirksen thornless berry, Evergreen blackberry, Himalayaberry, Hullberry, Lavacaberry, Loganberry, Lowberry, Lucretiaberry, Mammoth blackberry, Marionberry, Mora, Mures deronce, Nectarberry, Northern dewberry, Olallieberry, Oregon evergreen berry, Phenomenalberry, Rangeberry, Ravenberry, Rossberry, Shawnee blackberry, Southern dewberry, Tayberry, Youngberry, Zarzamora, plus cultivars, varieties and/or hybrids of these).

**Raspberry** (*Rubus* spp. - including Bababerry, Black raspberry, Blackcap, Caneberry, Framboise, Frambuesa, Himbeere, Keriberry, Mayberry, Purple raspberry, Red raspberry, Thimbleberry, Tulameen, Wild raspberry, Yellow raspberry, plus cultivars, varieties and/or hybrids of these).

All members of the Bushberry Subgroup 13-07B including: Aronia berry, Blueberry (*Vaccinium* spp. - highbush, lowbush and cultivars and/or hybrids of these [= all blueberry species]), Chilean guava, Currant (black, buffalo, native and red), European barberry, Gooseberry, Highbush cranberry, Honeysuckle (edible), Huckleberry, Jostaberry, Juneberry, Lingonberry, Salal, Sea buckthorn, plus cultivars, varieties and/or hybrids of these.

# SMALL FRUITS AND BERRIES cont'd.:

Cranberries; Grapes; Strawberries		
PEST	QUARTS OF THIS	SPECIFIC DIRECTIONS
	PRODUCT PER ACRE	
European fruit	1 to 2	OBSERVE BEE CAUTION.
lecanium		Repeat applications as necessary up to a total of
European		5 times per year but not more often than once
raspberry aphid		every 7 days.
Flea beetles		For cutworm, this product is most effective
Grape leaffolder		against species which feed on the upper portions
Grape leafroller		of the plant.
Japanese beetle		In grapes for grape leaffolder, apply before first
Leafhoppers		brood larvae emerge from rolls.
Leafrollers		In grapes, do not concentrate spray on the bunch
Meadow spittlebug		or visible residues may result.
Omnivorous		
leaftier		
Rose chafer		
Snowy tree cricket		
Strawberry bud		
weevil		
Strawberry clipper		
Strawberry		
fruitworm		
Strawberry		
leafroller		
Strawberry weevil		
Western grapeleaf		
skeletonizer		
Western		
yellowstriped		
_armyworm		
Blueberry maggot	1 1/2 to 2	
Cherry fruitworm		
Cranberry		
fireworm		
Cranberry		
fruitworms		
Cranberry twig		
girdler		
Elm spanworm		
Gypsy moth		
Sparganothis		
worm		
Tarnished plant		
_bug'		

#### SMALL FRUITS AND BERRIES

Cranberries: Grapes: Strawberries cont'd.:

	es, sirawberries com u	
PEST	QUARTS OF THIS	SPECIFIC DIRECTIONS
	PRODUCT PER ACRE	
Eight-spotted forester Cutworms Grape berry moth June beetles Omnivorous leafroller Orange tortrix Raspberry fruitworm Raspberry sawfly Redbanded leafroller Saltmarsh caterpillar	2	OBSERVE BEE CAUTION. Repeat applications as necessary up to a total of 5 times per year but not more often than once every 7 days. For cutworm, this product is most effective against species which feed on the upper portions of the plant. In grapes for grape leaffolder, apply before first brood larvae emerge from rolls. In grapes, do not concentrate spray on the bunch or visible residues may result.

## **RESTRICTIONS:** SMALL FRUITS AND BERRIES

- Do not apply within 7 days of harvest.
- Do not apply more than a total of 10 quarts per acre per crop per year.
- Use on cranberries may kill shrimp and crabs. Do not use in areas where these are important resources.
- Carbaryl may injure Early Dawn and Sunrise varieties of strawberries.
- For **GRAPES** only:

<u>East of the Rocky Mountains</u>: the restricted-entry interval (REI) = 2 days for all activities except grape girdling and cane turning.

**EXCEPTION:** the REI is 6 days for grape girdling and cane turning.

West of the Rocky Mountains: the restricted-entry interval (REI) = 6 days.

- Restricted-entry interval (REI) = 12 hours for Caneberries, Bushberries, Cranberries, and Strawberries.
- **BEE CAUTION:** Do not apply this product to target crops or weeds in bloom. If weed or cover crop bloom is present, mow orchard floor or between rows prior to applying this product.

## **SUNFLOWERS**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Stem weevil Sunflower beetle	1 to 1 1/2	Up to 2 applications may be made per year but not more often than once every 7 days.
Armyworm Cutworms Fall armyworm	1 1/2	For cutworm, this product is most effective against species which feed on the upper portions of the plant.
Sunflower moth		

#### **RESTRICTIONS:** SUNFLOWERS

- Do not apply within 30 days of grazing or harvest for forage or within 60 days of harvest for seed.
- Do not apply more than a total of 3 quarts per acre per crop per year.
- **BEE CAUTION:** Do not apply this product to target crops or weeds in bloom.
- DO NOT USE IN CALIFORNIA.

## **TOBACCO**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Budworms	1 to 2	Plant bed and Field Treatment
Fall armyworm		Repeat treatments as necessary up to a total of 4
Tobacco flea		times per year but not more often than once
beetles		every 7 days.
Hornworms		Use lower rate on young plants (up to knee
Japanese beetle		height). Use at least 10 gallons of prepared
June beetle		spray per acre. Begin treatments when worms
Suckfly		are small.

#### **RESTRICTIONS:** TOBACCO

- Do not apply within 2 days of harvest.
- Do not apply more than a total of 8 quarts per acre per crop per year.
- Observe plant response precautions.
- Restricted-entry interval (REI) = 2 days (48 hours).
- BEE CAUTION: Do not apply this product to target crops or weeds 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.

#### **CITRUS FRUITS**

All members of the Citrus Fruit 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, Satsuma mandarin, White sapote (*Casimiroa* spp.), and other cultivars and/or hybrids of these.

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Avocado leafroller California orangedog Citrus cutworm Fruittree leafroller Orange Tortrix Western tussock moth	2 to 3	OBSERVE BEE CAUTION. Repeat applications as necessary up to a total of 8 times per year but not more often than once every 14 days. For scale, apply when crawlers are present. For best results on Eriophyid mites including Citrus rust mite, apply when pest populations are low.
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 to 5	

CITRUS FRUITS cont'd.:

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Apopka weevil (adult) Citrus root weevils (adults) Fuller Rose Beetle Little leaf notcher (adult)	5	OBSERVE BEE CAUTION. Repeat applications as necessary up to a total of 8 times per year but not more often than once every 14 days. For scale, apply when crawlers are present. For best results on Eriophyid mites including Citrus rust mite, apply when pest populations are low.
California only: California red scale Yellow scale	5 to 12	Do not make more than 1 application per crop per year for California red scale. Apply when crawlers are present.

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

- Do not apply within 5 days of harvest.
- All States including California:

Do not apply more than a total of 20 quarts per acre per crop per year.

• California only:

Restricted-entry interval (REI) = 3 days for application rates  $\geq$  5 quarts per acre.

Do not apply more than 12 quarts per acre per application.

• All States other than California:

Restricted-entry interval (REI) = 12 hours

Do not apply more than 5 quarts per acre per application.

• **BEE CAUTION:** Do not apply this product to target crop in bloom. Mowing weed or cover crop bloom prior to applying this product will reduce hazard to bees.

#### **OLIVES**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Scale insects (olive scale,	5 to 7 1/2	Up to 2 applications per crop may be made but not more often than once every 14 days.
black scale)		

## **RESTRICTIONS: OLIVES**

- Do not apply within 14 days of harvest.
- Do not apply more than a total of 15 quarts per acre per crop per year.
- Restricted-entry interval (REI) = 3 days (72 hours).
- **BEE CAUTION:** Do not apply this product to target crops or weeds in bloom. If weed or cover crop bloom is present, mow orchard floor or between rows prior to applying this product.

# **POME FRUITS**

**Members of the Pome Fruit Group 11 including:** Apple, Crabapple, Loquat, Mayhaw, Pear, Oriental pear.

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
White apple	1/2 to 1 1/2	OBSERVE BEE CAUTION
leafhopper		On apples, avoid use during the period from full
Apple aphid	1 to 3	bloom until 30 days after full bloom unless fruit
Codling moth		thinning is desired. Use for pesticidal activity
Apple aphid	1 1/2 to 3	during this period may also result in fruit removal.
Apple maggot		Repeat applications as necessary up to a total of
Apple mealybug		8 times per crop (including thinning sprays on
Apple rust mite		apples) but not more often than once every 14
Bagworms		days.
California pearslug		For psylla, apply when eggs hatch or young
(pear sawfly)		nymphs are present.
European apple		For scale, apply when crawlers are present.
sawfly Evernetted bud		
Eyespotted bud moth		
Fruittree leafroller		
Gypsy moth		
Japanese beetle		
Lesser appleworm		
Lygus bugs		
Orange tortrix		
Pearleaf blister		
mite		
Pear psylla		
Pear rust mite		
Periodical cicada		
Plum curculio		
Redbanded		
leafroller		
Rosy apply aphid Scale insects		
(Forbes scale,		
Lecanium scale,		
San Jose scale)		
Tarnished plant		
bug		
Tentiform		
leafminers		
Woolly apple		
aphid		
Yellowheaded		
fireworm		

# POME FRUITS cont'd.:

Apples Only, for Fruit Thinning  1 to 3  OBSERVE BEE CAUTION Apply 1 to 3 quarts per acre of Carbaryl 4L insecticide 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 and weather conditions at the time of and following applications. The most effective spray gallonage will depend on the tree size, planting density, row spacing and amount of foliage. Use sufficient spray volume to insure adequate coverage (100 to 400 gallons/acre). Avoid spray to the point of runoff. Reduce spray coverage to the lower portion of the tree since overthinning may occur here. Factors such as climatic temperature, high humidity, frost, tree age, variety, nutrition, previous crop, pruning and bloom may influence fruit thinning results with the product. Exercise caution to avoid possible overthinning. For the most effective results, apply under good drying conditions and when daytime temperatures (°F) will be 70 to low 80s for the following 1 to 3 days. Application with daytime temperatures in excess of 80 °F may result in overthinning. Carbaryl 4L insecticide may be mixed with other fruit thinning and other adverse effects. Consult with local fruit thinning experts in your area for recommendations on appropriate tank mixing partners. Refer to the other product labels for	POWE FRUI		CRECIFIC DIRECTIONS
Apples Only, for Fruit Thinning  1 to 3  OBSERVE BEE CAUTION Apply 1 to 3 quarts per acre of Carbaryl 4L insecticide 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 and weather conditions at the time of and following applications.  The most effective spray gallonage will depend on the tree size, planting density, row spacing and amount of foliage. Use sufficient spray volume to insure adequate coverage (100 to 400 gallons/acre). Avoid spray to the point of runoff.  Reduce spray coverage to the lower portion of the tree since overthinning may occur here. Factors such as climatic temperature, high humidity, frost, tree age, variety, nutrition, previous crop, pruning and bloom may influence fruit thinning results with the product. Exercise caution to avoid possible overthinning. For the most effective results, apply under good drying conditions and when daytime temperatures (°F) will be 70 to low 80s for the following 1 to 3 days. Application with daytime temperatures in excess of 80 °F may result in overthinning.  Carbaryl 4L insecticide may be mixed with other fruit thinning and other adverse effects. Consult with local fruit thinning experts in your area for recommendations on appropriate tank mixing partners. Refer to the other product labels for	CROP	PESI	SPECIFIC DIRECTIONS
NOTE: The use of Carbaryl 4L insecticide 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 increase the possibility of fruit deformity. The use with summer spray oils and wetting agents may increase the risk of fruit	Only, for Fruit	PEST	Apply 1 to 3 quarts per acre of Carbaryl 4L insecticide 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 and weather conditions at the time of and following applications. The most effective spray gallonage will depend on the tree size, planting density, row spacing and amount of foliage. Use sufficient spray volume to insure adequate coverage (100 to 400 gallons/acre). Avoid spray to the point of runoff. Reduce spray coverage to the lower portion of the tree since overthinning may occur here. Factors such as climatic temperature, high humidity, frost, tree age, variety, nutrition, previous crop, pruning and bloom may influence fruit thinning results with the product. Exercise caution to avoid possible overthinning. For the most effective results, apply under good drying conditions and when daytime temperatures (°F) will be 70 to low 80s for the following 1 to 3 days. Application with daytime temperatures in excess of 80 °F may result in overthinning. Carbaryl 4L insecticide may be mixed with other fruit thinners, however, use caution to avoid overthinning and other adverse effects. Consult with local fruit thinners, however, use caution to avoid overthinning and other adverse effects. Consult with local fruit thinners on appropriate tank mixing partners. Refer to the other product labels for specific use directions.  NOTE: The use of Carbaryl 4L insecticide 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
deformity and injury. Consult with fruit thinning			deforming and injury. Consult with truit thirthing

POME FRUITS cont'd.:

CROP	PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Apples Only, for Fruit Thinning		1 to 3	experts in your area for advice on using this product on specific apple varieties under local growing conditions or other questions. Observe all restrictions on the use of this product for apple thinning.

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

- Do not apply to quince.
- Do not use on pears between the tight flower cluster up to the 20 mm 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 per crop per year.
- Do not make more than a total of 8 applications per crop per year.

FOR PROTECTION OF HONEY BEES:

• **BEE CAUTION:** Do not apply this product to target crops or weeds in bloom. If weed or cover crop bloom is present, mow orchard floor or between rows prior to applying this product.

## For Apple Thinning Use

- Do not apply during bloom.
- Remove bee hives from orchard to be treated before applying this product. Removing bee hives from adjacent orchards will further minimize risk to bees.

## **Drift Management**

For airblast application, follow the following drift management practices:

- 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.

## **STONE FRUITS**

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

		<u> </u>
PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Apple pandemis	2 to 3	OBSERVE BEE CAUTION
Black cherry aphid		Repeat applications as necessary up to a total of
Cherry fruitworm		3 times per crop but not more often than once
Cherry maggot		every 7 days. An additional application at the
(Cherry fruit fly)		dormant or delayed dormant timing may be made.
Codling moth		For best results on scale, apply when crawlers
Cucumber beetles		are present.
Eastern tent		For lesser peachtree borer, best results have
caterpillar		been found by thoroughly spraying limbs and
Eyespotted bud moth		tree trunks at weekly intervals during moth flight.
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		

#### STONE FRUITS cont'd.:

PEST	QUARTS OF THIS	SPECIFIC DIRECTIONS
Peach twig borer Scale insects (Brown soft scale, Forbes scale, Lecanium scale, Olive scale, Oystershell scale, San Jose scale)	4 to 5	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.
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) Tarnished plant bug Tussock moth	3 to 4	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.

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

- Do not apply within 3 days of harvest, except in California. In California, do not apply within 1 day of harvest.
- All States including California:

Do not apply more than a total of 14 quarts per acre per crop per year.

Do not apply more than a total of 5 quarts per acre at the dormant or delayed dormant timing. Do not apply more than a total of 9 quarts per acre during the production season.

- 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 (3 lbs ai/A) per application during the production season.
- **BEE CAUTION:** Do not apply this product to target crops or weeds in bloom. If weed or cover crop bloom is present, mow orchard floor or between rows prior to applying this product.

## 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, density, and other factors.

#### **PISTACHIOS**

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Brown soft scale Lecanium scale Navel orangeworm	3 to 5	Repeat applications as necessary up to a total of 4 times per crop per year (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	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 5 quarts per acre per application.
- Do not apply more than a total of 15 quarts per acre per crop per year, including any application at the dormant or delayed dormant timing.
- **BEE CAUTION:** Do not apply this product to target crops or weeds in bloom. If weed or cover crop bloom is present, mow orchard floor or between rows prior to applying this product.

## TREE NUTS

All members of the Tree Nut 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].

PEST	QUARTS OF THIS	SPECIFIC DIRECTIONS
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 stem phylloxera Pecan nut casebearer Pecan spittlebug Pecan weevil San Jose scale Twig girdler Walnut	PRODUCT PER ACRE 2 to 5	OBSERVE BEE CAUTION Repeat applications as necessary up to a total of 4 times per crop (including any applications at the dormant or delayed dormant timing) but not more often than once every 7 days.  Use lower rates for pests attacking leaves. Use higher rates for pests attacking fruit and for higher infestations.  For scale, apply when crawlers are present.  For peach twig borer, best results with foliar applications have been found by making applications in "popcorn" or petal fall stages when the May brood begins to hatch.  For Navel orangeworm in almonds and walnuts, best results have been found by timing early and midseason applications to correspond with moth flight peaks.  For Filbert leafroller, best results have been found by making application on first appearance of moths and again 3 to 4 weeks later.  For Codling moth in walnuts, best results have been found by making applications when average cross-sectional diameters of developing nuts are 0.5 to 0.75 inches and again during middle or late June as needed.
caterpillar Chestnut weevil European earwig	4 to 5	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. For European earwig, thorough coverage of trunks, branches, and nuts is needed for best results.
Almonds only Peach twig borer Scale insects	4 to 5	For dormant or delayed dormant timing, apply in combination with a recommended dormant oil. Refer to the dormant oil product label for additional use directions and restrictions.

## **RESTRICTIONS: TREE NUTS**

- Do not apply within 14 days of harvest.
- Do not apply more than a total of 15 quarts per acre per crop per year, including any application at the dormant or delayed dormant timing.
- **BEE CAUTION:** Do not apply this product to target crops or weeds in bloom. If weed or cover crop bloom is present, mow orchard floor or between rows prior to applying this product.

#### FORESTED AREAS AND RANGELAND TREES

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

Forested areas: Forests, Tree Plantations, Planted Christmas Trees, Parks, Rural Shelter Belts; Rangeland Trees.

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Ants (except harvester, pharaoh and carpenter) 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 aphid Elm leaf beetle Eriophyid mites European pine shoot moth Fall armyworm Flea beetle Fuschia gall mite Fuller rose beetle Gall midges Gall wasps	1 qt per acre (3/4 fl oz per 1000 ft <sup>2</sup> )	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.  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.  * Will kill only pests that are present at the time of application and directly contacted by product.

FORESTED AREAS AND RANGELAND TREES cont'd.:

	S AND RANGELAND TRE	
PEST	QUARTS OF THIS	SPECIFIC DIRECTIONS
	PRODUCT PER ACRE	
Greenstriped	1 qt per acre	Observe plant response precautions.
mapleworm	(3/4 fl oz per 1000 ft <sup>2</sup> )	Obtain thorough coverage of upper and lower
Grasshoppers		leaf surfaces. The addition of a sticker may
Hackberry		improve product performance.
nipplegall maker		To kill scale insects, treat trunks, stems and twigs
Holly bud moth		in addition to plant foliage.
Holly leafminer		For best results on worm, treat when pests are
Jackpine budworm		small.
Japanese beetle		Make applications for Maple leafcutter on sugar
Jeffrey pine		maple when larvae are in 2nd instar after mining
needleminer		and as cases are being formed.
June beetles		Repeat treatments as necessary up to a total of
Lace bugs		2 times per year but not more often than once
Leafhoppers		every 7 days.
Leafrollers		For Gypsy moths, use the higher rate for heavy
Locust borer		infestations.
Maple leafcutter		* Will kill only pests that are present at the time of
Mealy bugs		application and directly contacted by product.
Mimosa webworm		application and directly contacted by product.
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)		
Jawilles (Expuseu)		

FORESTED AREAS AND RANGELAND TREES cont'd.:

PEST PEST	QUARTS OF THIS	SPECIFIC DIRECTIONS
	PRODUCT PER ACRE	5. 15. 15 Bitterions
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 Wooly gall aphid Yellow poplar weevil	1 qt per acre (3/4 fl oz per 1000 ft <sup>2</sup> )	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. 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. * Will kill only pests that are present at the time of application and directly contacted by product.
Gypsy Moth	3/4 to 1 qt per acre (1/2 to 3/4 fl oz per 1000 ft <sup>2</sup> )	
Ticks*	1 qt per acre (3/4 fl oz per 1000 ft <sup>2</sup> )	

**Forested areas:** Forests, Tree Plantations, Planted Christmas Trees, Parks, Rural Shelter Belts; Rangeland Trees

PEST	FL OZ OF THIS PRODUCT	SPECIFIC DIRECTIONS
Elm bark beetle Ips engraver beetles Mountain pine beetle Roundheaded pine beetle Spruce beetle Western pine beetle	5 fl oz per gal	Direct Trunk Treatment:  Effective as a preventative treatment only. Treat annually 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:** FORESTED AREAS AND RANGELAND TREES

- Do not make more than 2 foliar applications and 2 direct trunk treatments per year.
- Do not use on syrup-producing sugar maples where sap is harvested.

RESTRICTIONS: FORESTED AREAS AND RANGELAND TREES cont'd.:

- DO NOT ENTER OR ALLOW OTHERS TO ENTER TREATED AREAS UNTIL SPRAYS HAVE DRIED.
- BEE CAUTION: Do not apply this product to plants in bloom.

## **ORNAMENTAL TREES AND PLANTS**

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

Roses, Flowers, Other Herbaceous Plants, Woody Plants, Evergreens, and Shrubs.

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Ants (except harvester, pharaoh and carpenter 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 aphid Elm leaf beetle Eriophyid mites European pine shoot moth Fall armyworm Flea beetle Fuchia gall mite Fuller rose beetle Gall midges Gall wasps Glassy winged sharpshooter	1 qt per acre or per 100 gal (3/4 fl oz per 1000 ft²)	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.  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. *Will kill only pests that are present at the time of application and directly contacted by product.

Roses, Flowers, Other Herbaceous Plants, Woody Plants, Evergreens, and Shrubs cont'd.:

		Woody Plants, Evergreens, and Shrubs cont'd.:
PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
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	1 qt per acre or per 100 gal (3/4 fl oz per 1000 ft²)	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.  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. *Will kill only pests that are present at the time of application and directly contacted by product.

Roses, Flowers, Other Herbaceous Plants, Woody Plants, Evergreens, and Shrubs cont'd.: **PEST QUARTS OF THIS** SPECIFIC DIRECTIONS PRODUCT PER ACRE Sawflies (exposed) Observe plant response precautions. 1 qt per acre Scale insects Obtain thorough coverage of upper and lower leaf or surfaces. The addition of a sticker may improve (crawlers) per 100 gal Sowbuas  $(3/4 \text{ fl oz per } 1000 \text{ ft}^2)$ product performance. Spiney elm To kill scale insects, treat trunks, stems and twigs caterpillar in addition to plant foliage. Springtails For best results on worms, treat when pests are Spruce small. needleminer Make applications for Maple leafcutter on sugar Subtropical pine maple when larvae are in 2nd instar after mining tip moth and as cases are being formed. Tent caterpillars Repeat treatments as necessary up to a total of 6 times per year but not more often than once Thorn bug Thrips (exposed) every 7 days. Walnut caterpillar For Gypsy moths, use the higher rate for heavy Webworms infestations. Western spruce \*Will kill only pests that are present at the time of budworm application and directly contacted by product. Willow leaf beetles Wooly gall aphid

Yellow poplar weevil Gypsy Moth

Ticks\*

3/4 to 1 qt per acre

(1/2 to 3/4 fl oz per

 $(3/4 \text{ fl oz per } 1000 \text{ ft}^2)$ 

per 100 gal

1 qt per acre

per 100 gal

1000 ft<sup>2</sup>)

or

or

Roses, Flowers, C	other Herbaceous Plants, FL OZ OF THIS PRODUCT	Woody Plants, Evergreens, and Shrubs SPECIFIC DIRECTIONS
Elm bark beetle Ips engraver beetles Mountain pine beetle Roundheaded pine beetle Spruce beetle Western pine beetle	5 fl oz per gal	Direct Trunk Treatment:  Effective as a preventative treatment only. Treat annually 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: ORNAMENTAL TREES AND PLANTS**

- Do not make more than 6 foliar and 2 direct trunk treatments per year.
- Do not use on syrup-producing sugar maples where sap is harvested.
- DO NOT ENTER OR ALLOW OTHERS TO ENTER TREATED AREA UNTIL SPRAYS HAVE DRIED.
- Restricted-entry interval (REI) = 12 hours.
- EXCEPTION: the restricted-entry interval is 18 days for ornamentals grown for cuttings (cut flowers or cut foliage) where production is in outdoor areas and where average annual rainfall is less than 25 inches a year. Notify workers of the application and restricted-entry interval by warning them orally and by posting warning signs at entrances to treated area. Note: information on average annual rainfall for your area is available from any nearby weather bureau, such as one located at a local airport or one affiliated with the National Oceanographic and Atmospheric Administration (NOAA).
- BEE CAUTION: Do not apply this product to plants in bloom.

#### **TURFGRASS**

Apply using ground 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 THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Ants (except harvester, pharaoh and carpenter 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, June beetle, Japanese beetle, green June beetle) Sowbugs Spittlebugs	2 to 4 (1 1/2 to 3 fl oz per 1000 sq ft)	For Armyworm, Cutworm, and Fall Armyworm:  Do not irrigate treated areas within 24 hrs. following insecticide application.  For Green June Beetle Grub (larvae): Make applications when grubs are feeding near the soil surface. Water or irrigate turfgrass within 48 hours after treatment.  Repeat applications as necessary up to a total of 4 times per year but not more often than once every 7 days.  * Will kill only pests that are present at the time of application and directly contacted by product.
Yellowstriped armvworm		

## TURFGRASS cont'd.:

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Ticks*	1 qt per acre (3/4 fl oz per 1000 sq ft)*	For Armyworm, Cutworm, and Fall Armyworm:  Do not irrigate treated areas within 24 hrs.  following incosticide application
Centipedes* Chiggers* Earwigs*	4 qts per acre (3 fl oz per 1000 sq ft)	following insecticide application.  For Green June Beetle Grub (larvae): Make applications when grubs are feeding near the soil surface. Water or irrigate turfgrass within 48 hours after treatment.  Repeat applications as necessary up to a total of 4 times per year but not more often than once every 7 days.  * Will kill only pests that are present at the time of application and directly contacted by product.
Chinch bugs	6 to 8 qts per acre	For Chinch bug: Treat entire grass area rather
Sod Webworm (lawn moths)	(4.4 to 6 fl oz per 1000 sq ft)	than just damaged areas. Irrigation prior to treatment will aid in penetration of insecticide into
Bluegrass billbug larvae European crane fly White grubs (Japanese beetle, Chafer beetle, and Phyllophaga spp. larvae) Black turfgrass ataenius beetle larvae Hyperoides weevil	8 qts per acre (6 fl oz per 1000 sq ft)	turfgrass. Do not irrigate treated areas within 24 hours. following insecticide application.  For European Crane Fly: Apply in early spring April 1 to April 15, or at timing recommended by local Cooperative Extension Service Agents. Water or irrigate turfgrass within 48 hours after treatment.  For White Grub: Apply when grubs are feeding near the soil surface, usually during late March through May, or July through early September, o at timing recommended by local Cooperative Extension Service Agents. Water or irrigate turf grass within 48 hours after treatment. Repeat applications as necessary up to 2 times
(bluegrass weevil) larvae		per year but not more often than once every 7 days.
<u>Springtails</u> Fleas*	8 qts per acre	* Will kill only pests that are present at the time of application and directly contacted by product.
	(6 fl oz per 1000 sq ft)	

## **RESTRICTIONS: TURFGRASS**

- Do not apply more than a total of 16 quarts per acre per year.
- 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) = 24 hours for turf grown for sod productions.
- DO NOT ENTÉR OR ALLOW OTHERS TO ENTÉR TREATED ÀREA UNTIL SPRAYS HAVE DRIED.
- Do not apply by air or chemigation.
- BEE CAUTION: Do not apply this product to plants in bloom.

#### SPECIFIC PESTS ACROSS MULTIPLE SITES

#### **GRASSHOPPERS**

All crops on this label

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Grasshoppers	1/2 to 1 1/2*	Apply 1/2 to 3/4 quarts per acre of this product for nymphs on small plants or sparse vegetation. Apply 1 to 1 1/2 quarts per acre for mature grasshoppers or applications to dense foliage. Be certain spray volumes are appropriate to assure adequate coverage.

## **RESTRICTIONS:** GRASSHOPPER

• \*NOTE: Refer to individual site listings elsewhere on this label for use restrictions. Do not use rates higher than listed for the site. Observe all use restrictions.

#### 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 kill only 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); Ornamental Trees and Plants; Turfgrass\*\*.

PEST	QUARTS OF THIS PRODUCT PER ACRE	SPECIFIC DIRECTIONS
Ixodes spp. (Deer tick, Bear tick, Black legged tick) Amblyomma spp. (Lone star tick)	1 qt per acre (3/4 fl oz per 1000 ft <sup>2</sup> )	To kill juvenile ticks, apply in late spring or early summer. To kill adult ticks, apply in late summer to fall.  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

- Do not make more than 4 applications per year for ticks.
- \* 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. If product is used
  to kill ticks on any use site listed on this label, the use rate must not exceed 1 quart/A
  (3/4 fl. oz. /1,000 ft²). Observe all 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 ENTER OR ALLOW OTHERS TO ENTER TREATED AREA UNTIL SPRAYS HAVE DRIED.

#### **IMPORTED FIRE ANTS**

# All crops/sites on this label

PEST	FL OZ OF THIS PRODUCT	DIRECTIONS
Imported fire ants	3/4 fl oz per gal	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 3 feet to give sufficient force to break mound apex and flow into ant tunnels. For best results apply in cool weather (65-80 °F) or in early morning or late evening hours. Repeat application if mound activity resumes after 30 days. Treat new mounds as they appear. Pressurized sprays may disturb the ants and cause migration, reducing product effectiveness.
Imported fire ants (foraging)	1 1/2 fl oz per gal	BROADCAST 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 per year.

## **RESTRICTIONS: IMPORTED FIRE ANTS**

- DO NOT ENTER OR ALLOW OTHERS TO ENTER TREATED AREA UNTIL SPRAYS HAVE DRIED.
- FOR OUTDOOR USE ONLY. DO NOT USE IN GREENHOUSES.
- DO NOT USE ON ANY FOOD CROP NOT LISTED ON THIS LABEL. Refer to the specific site use directions elsewhere on this label for additional 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.

#### **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	FL OZ OF THIS PRODUCT	SPECIFIC DIRECTIONS
Ants* Bees* Brown dog tick* Centipedes* Cockroaches* Crickets Darkling beetle (lesser meal worm or litter beetle) Earwigs Firebrats Fleas* Millipedes Scorpions* Silverfish* Spiders* Wasps*	2 1/2 fl ozs per gal	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 outside of structure should be minimal and restricted to cracks, crevices, and areas where insects tend to congregate.  For use in and around flower beds and ornamental plantings, apply as a coarse wet spray.

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

- Do not make more than 4 applications per year. Do not apply more often than once every 7 days.
- DO NOT ENTER OR ALLOW OTHERS TO ENTER TREATED AREA UNTIL SPRAYS HAVE DRIFT
- 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. For outdoor use only.
- \* Will kill only pests that are present at the time of application and directly contacted by product.

#### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store unused Carbaryl 4L 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:** 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:**

Nonrefillable Container (five gallons or less): Do not reuse or refill this container. Triple rinse or pressure 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 1/4 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. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Offer for recycling, if available. If not recycled, then puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Nonrefillable Container (greater than five gallons): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then puncture and dispose of in a sanitary landfill, incinerate or burn, if allowed by state and local authorities. Stay out of smoke from burning container. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable Container:** Refillable container. Refill this container with carbaryl only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC – 1-800-424-9300.

#### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

BEFORE BUYING OR USING THIS PRODUCT, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability,

which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

Subject to the foregoing inherent risks, LOVELAND PRODUCTS, INC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use when the product is used in strict accordance with such Directions for Use under normal conditions of use. EXCEPT AS WARRANTED IN THIS LABEL AND TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THIS PRODUCT IS SOLD "AS IS," AND LOVELAND PRODUCTS, INC. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ELIGIBILITY OF THIS PRODUCT FOR ANY PARTICULAR TRADE USAGE.

IN THE UNLIKELY EVENT THAT BUYER OR USER BELIEVES THAT LOVELAND PRODUCTS, INC. HAS BREACHED A WARRANTY CONTAINED IN THIS LABEL AND TO THE EXTENT REQUIRED BY APPLICABLE LAW, BUYER OR USER MUST SEND WRITTEN NOTICE OF ITS CLAIM TO THE FOLLOWING ADDRESS: LOVELAND PRODUCTS, INC., ATTENTION: LAW DEPARTMENT, P. O. BOX 1286, GREELEY, CO 80632-1286.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE BUYER'S OR USER'S EXCLUSIVE REMEDY FOR ANY INJURY, LOSS, OR DAMAGE RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT, INCLUDING BUT NOT LIMITED TO CLAIMS OF BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORTS, SHALL BE LIMITED TO ONE OF THE FOLLOWING, AT THE ELECTION OF LOVELAND PRODUCTS, INC. OR THE SELLER: DIRECT DAMAGES NOT EXCEEDING THE PURCHASE PRICE OF THE PRODUCT OR REPLACEMENT OF THE PRODUCT. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, LOVELAND PRODUCTS, INC. AND THE SELLER SHALL NOT BE LIABLE TO THE BUYER OR USER OF THIS PRODUCT FOR ANY CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES, OR DAMAGES IN THE NATURE OF A PENALTY.

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