

# RESTRICTED USE PESTICIDE

For retail sale to and use only by certified applicators or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

**ACCEPTED**

MAR 2 2004

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 19713-520.

**Drexel**

# Chlorpyrifos 4E-AG

Insecticide

For control of various Insects infesting certain Field, Fruit, Nut and Vegetable crops.

**ACTIVE INGREDIENT:**

Chlorpyrifos: 0,0-diethyl-0-(3,5,6-trichloro-2-pyridinyl) phosphorothioate	% By Wt. 40.7%
<b>OTHER INGREDIENTS*:</b>	<b>59.3%</b>
<b>TOTAL:</b>	<b>100.0%</b>

This product contains 4 pounds of Chlorpyrifos per gallon.

\*Contains Aromatic petroleum distillates.

**KEEP OUT OF REACH OF CHILDREN**

## WARNING / AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See **FIRST AID** Below

**SHAKE WELL BEFORE USING**

EPA Reg. No. 19713-520

EPA Est. No. 19713-GA-1

Net Contents: \_\_\_\_\_

**FIRST AID  
ORGANOPHOSPHATE**

**IF SWALLOWED:**

- Call a poison control center or doctor immediately for treatment advice.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give any liquid to the person.
- Do not give anything by mouth to an unconscious or convulsing person.

**IF IN EYES:**

- Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

**IF ON SKIN OR CLOTHING:**

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 to 20 minutes.

**IF INHALED:**

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.

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

**NOTE TO PHYSICIAN:** This product contains an organophosphate that inhibits cholinesterase. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. In case of severe, acute poisoning, use antidote immediately after establishing an open airway and respiration. Contains petroleum distillate. Do not induce vomiting since vomiting may cause aspiration pneumonia.

**PRECAUTIONARY STATEMENTS**

**Hazards to Humans and Domestic Animals**

**WARNING:** May be fatal if swallowed. Harmful if absorbed through skin or inhaled. Causes eye irritation. Avoid contact with eyes, skin or clothing. Avoid breathing vapors. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category H on an EPA chemical-resistance category selection chart.

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

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves made of waterproof material such as Barrier laminate and Viton ≥ 14 mils.
- Chemical-resistant apron when mixing or loading or exposed to the concentrate
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure
- A NIOSH approved respirator with any R, P, or HE filter

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

**ENGINEERING CONTROLS**

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

**USER SAFETY RECOMMENDATIONS**

**User should:**

- Wash hands 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.

Manufactured By:

**Drexel Chemical Company**

P.O. BOX 13327, MEMPHIS, TN 38113-0327

SINCE 1972

• 520SP-0104++Pending(RED)

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**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish, aquatic invertebrates, small mammals and birds. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwater or rinsate. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. Protective information may be obtained from your cooperative agricultural extension service.

**PHYSICAL OR CHEMICAL HAZARDS**

Combustible. Do not use or store near heat or open flame.

**DIRECTIONS FOR USE**

**RESTRICTED USE PESTICIDE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. 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. Read all "DIRECTIONS FOR USE" carefully before applying.

**AGRICULTURAL USE REQUIREMENTS**

Use this product in accordance with its labeling and with the Worker Protection Standard (WPS), 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 intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of:

- 4 days for fruit trees
- 5 days for citrus
- 3 days for Cauliflower
- 24 hours for all other crops not listed above.

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 sleeved shirt and short pants
- Chemical-resistant gloves, made out of any waterproof material
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for over head exposure

Certified crop advisors or persons entering under their direct supervision under certain circumstances may be exempt from the early re-entry requirement pursuant to 40 CFR Part 170.

Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

**GENERAL INFORMATION**

CHLORPYRIFOS 4E-AG insecticide forms an emulsion when diluted with water and is suitable for use in all conventional spray equipment. Consult your State Experiment Station or State Extension Service for proper timing of applications.

**GENERAL USE PRECAUTIONS**

Do not use on Turf or for structural pest control. Do not formulate this product into other end-use products.

**Attention:** Do not cut or weld container.

**SPRAY DRIFT MANAGEMENT**

Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, nontarget areas, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

- For ground boom applications, do not apply within 25 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds. Apply with nozzle height no more than 4 feet above the ground or crop canopy and when the wind speed is 10 mph or less at the application site as measured by an anemometer. Use fine or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles.
- For orchard/vineyard airstream applications, do not apply within 50 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds. Direct spray above trees/vines and turn off outward pointing nozzles at row ends and outer rows. Apply only when wind speed is 3-10 mph at the application site as measured by an anemometer outside the orchard/vineyard on the upwind side.
- For aerial applications, do not apply within 150 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds. The boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3-10 mph as measured by an an-

emometer. Use fine or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or the crop canopy.

- For overhead chemigation, do not apply within 25 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds. Apply only when wind speed is 10 mph or less.

The applicator also must use all other measures necessary to control drift.

**MIXING DIRECTIONS**

To prepare the spray, add a portion of the required amount of water to the spray tank and with agitation, add this product. Complete filling the tank with the balance of water needed. Maintain sufficient agitation during both mixing and application to ensure uniformity of the spray mixture.

This product may also be used in tank mixtures with certain herbicides and/or with non-pressure fertilizer solutions as recommended under specific crop use directions. Prepare tank mixtures in the same manner as recommended above for use of this product alone. When tank mixtures of this product and herbicides are involved, add wettable powders first, flowables second and emulsifiable concentrates last. Where a fertilizer solution is involved, it is strongly recommended that a fertilizer pesticide compatibility agent such as Unite® or Compex® be used. Maintain constant agitation during both mixing and application to ensure uniformity of the spray mixture. Do not allow spray mixtures to stand overnight.

**Note:** Test compatibility of the intended tank mixture before adding this product to the spray or tank mix. Add proportionate amounts of each ingredient to a pint or quart jar, cap, shake and let set 15 minutes. Formation of precipitates that do not readily redispense indicates an incompatible mixture that should not be used.

**SPRINKLER IRRIGATION**

This product may be applied by sprinkler irrigation for the following crop uses: Alfalfa, Citrus orchard floors, Corn (Field, Sweet), Cotton, Cranberries, Mint, Sorghum and Soybeans.

See the use sections for the individual crops for further application information. Do not apply this product to the above listed crops through any other type of irrigation system. Do not apply this product by chemigation to any other crop.

**SPECIAL USE DIRECTIONS**

The following use directions are to be followed when this product is applied through sprinkler irrigation systems. Thoroughly clean the injection system and tank of any fertilizer or chemical residues, and dispose of the residues according to State and Federal laws. Flush the injector with soap and water. Determine the amount of insecticide needed to cover the desired acreage. Pump the required amount of this product into a steel tank, start mechanical or hydraulic agitation and add, in order, the non-emulsifiable oil and/or water. Continually agitate the mixture containing this product. Set the sprinkler system to deliver the desired inches of water per acre. Start the water pump and sprinkler and let the system achieve the desired pressure and speed before starting the injector. Start the injector and calibrate the injector system according to Number 14 in the "SPECIAL USE PRECAUTIONS" section. The mixture containing this product must be injected continuously and uniformly into the irrigation water line as the sprinkler is moving. This procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

**SPECIAL USE PRECAUTIONS**

The following use precautions will result in a safe and successful application of mixture containing this product.

1. Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, micro sprinkler or hand move. Do not apply this product through any other type of irrigation system.
2. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
3. If you have any questions about calibration, you should contact state extension service specialist, equipment manufacturers or other experts.
4. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.
5. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
6. The system must contain a functional check valve, vacuum relief valve and a low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. Refer to the American Society of Agricultural Engineer's Engineering Practice 409 for more information.
7. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

8. 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 shut down.
9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
10. 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.
11. 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. The metering pump must provide a greater pressure than that of the irrigation system at the point of injection. The pump must meet Section 875 for "Electrically Driven or Controlled Irrigation Machines" NEC 70 and must contain Viton or Teflon seals.
12. To ensure uniform mixing of the insecticide into the water line, inject the mixture through a nozzle placed in the fertilizer injection port or just ahead of an elbow or tee in the irrigation line so that the turbulence created at those points will assist in mixing. It is suggested that the injection point be higher than the insecticide tank to prevent siphoning.
13. The steel tank holding the insecticide mixture should be large enough to allow the system to complete a revolution with one filling. It should be free of rust, fertilizer sediment and foreign material, and equipped with an in-line strainer situated between the tank and the injector pump.
14. In order to calibrate the irrigation system and injector to apply the mixture containing this product, determine the following: 1) Calculate the number of acres irrigated by the system; 2) Set the irrigation rate and determine the number of minutes for the system to cover the intended treatment area; 3) Calculate the total gallons of insecticide mixture needed to cover the desired acreage. Divide the total gallons of insecticide mixture needed by the number of minutes to cover the treatment area. This value equals the gallons per minute output that the injector must deliver. Convert the gallons per minute to milliliters or ounces per minute. Calibrate the injector pump with the system in operation at the desired irrigation rate. It is suggested that the injector pump be calibrated at least twice before operation, and the system should be monitored during the operation.
15. Do not apply when wind speed favors drift beyond the area intended for treatment. End guns must be turned off during the application if they irrigate non-target areas.
16. Do not allow irrigation water to collect or run off and pose a hazard to livestock, wells or adjoining crops.
17. Allow foliage to dry before reentering the field.
18. Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.

**APPROVED CROPS**

**ALFALFA**

Use this product to control the following pests at the dosages indicated by application as a broadcast foliar spray:

Pest	This Product
Aphids (suppression)	0.5 pt. per acre
Corn rootworm adults (Spotted cucumber beetle), Grasshoppers	0.5 to 1 pt. per acre
Alfalfa blotch leafminers, Alfalfa loopers, Alfalfa weevil larvae and adults, Armyworms, Cutworms, Egyptian alfalfa weevil larvae and adults, Plant bugs, Leafhoppers, Spittlebugs	1 to 2 pts. per acre

**Note:** Use higher rates to control Spotted alfalfa aphids in California and Nevada. Stubble spray may be applied to control Leafhoppers in the Northeast.

Mix the required dosage with enough water to ensure thorough coverage of crop foliage and apply using aerial (fixed-wing or helicopter) or power-operated ground spray equipment. For aerial application, use 2 to 5 gallons of water per acre. For best coverage when using ground application, a minimum of 20 gallons of water per acre with hollow cone nozzles is recommended. Control may be reduced at low spray volumes under high temperature and wind conditions. Treat when field counts or crop injury indicates that damaging pest populations are developing or present; however, do not apply more than once per crop cutting. Some reduction in insect control may be evident under excessively cool conditions. For Egyptian alfalfa weevil control in California, apply the specified dosage in a minimum of 5 gallons of water per acre when larvae are actively feeding and populations reach 15 to 20 larvae per 180° sweep with a 15-inch diameter net.

This product may also be applied through sprinkler irrigation systems as a postemergence broadcast application to control the above listed foliar pests. For best results, use the recommended rate of this product per acre. Maintain vigorous tank agitation to assure uniformity of the application throughout the injection period. See "SPRINKLER IRRIGATION" section for further information.

This product should not be tank mixed with pesticides, surfactants or fertilizer formulations unless prior use has shown the combination non-injurious under your current conditions of use. Some phytotoxic symptoms may be observed on young, tender, rapidly growing Alfalfa when treated with this product. Alfalfa will outgrow the symptoms and no yield loss should be expected.

This product is highly toxic to bees exposed to direct treatment on Alfalfa. Do not apply if nearby bees are clustered outside of hives and bees are foraging. Protective information may be obtained from your Agricultural extension service.

**RESTRICTIONS:** Do not cut or graze treated Alfalfa within 7 days after application of 0.5 pint of this product per acre, within 14 days after application of 1 pint per acre, or within 21 days after application of rates above 1 pint per acre. Do not make more than 4 applications per year or apply more than once per crop cutting.

**ASPARAGUS**

Use this product to control Asparagus aphids, Asparagus beetles and Cutworms by application at the rate of 2 pints per acre. Mix the specified dosage in sufficient water to ensure thorough coverage of treated plants and apply a broadcast foliar spray. For Cutworms, it is preferable to apply this product when the soil is moist and worms are active on or near the soil surface. Applications may be made during the fern stage for control of Asparagus aphids and Asparagus beetles when field counts or crop injury indicates that damaging pest populations are developing or present.

**RESTRICTIONS:** Do not make more than one pre-harvest application per season or apply within one day of harvest. Do not make more than two post-harvest applications during the fern stage. Based on available residue data, the use of this product on Asparagus is limited to the Midwest and Pacific Northwest.

**CHERRIES**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 days unless PPE required for early entry is worn.

Use this product for the control of American plum borers, Greater peach tree borers and Lesser peach tree borers by application as a trunk spray. Mix 1.5 to 3 quarts of this product with 100 gallons of water and apply as a coarse, low-pressure spray to give uniform coverage of tree trunks and lower limbs. Make a second application two weeks after the first one and a third application after harvest. Avoid contact with foliage in Sweet cherries, as premature leaf drop may result. Consult your state agricultural experiment station or extension service specialist for the proper time to treat in your area.

In addition, one of the three allowable applications per year may be applied as a dormant spray for control of Climbing cutworms, Peach twig borers and San Jose scales. For control of these pests, tank-mix 0.5 to 1 pint of this product with 1 to 2 gallons of a petroleum oil recommended for dormant use in 100 gallons of water and spray the entire tree by application to runoff using ground spray equipment. For low volume (concentrate) sprays (40 to 100 gallons of spray mixture per acre), use the same amounts of this product and spray oil per acre required for application as a dilute spray and apply in a manner that will ensure thorough coverage of the trees. Use the higher dosage of this product for severe infestations. Use oil as recommended by your State Agricultural Experiment Station or Extension Service Specialist.

**RESTRICTIONS:** Make only 3 applications per year. Do not apply within 6 days before harvest. Do not allow meat or dairy animals to graze in treated orchards.

**CHRISTMAS TREES (Nurseries and Plantations)**

Use this product at the rate indicated to control the following Insects on the Tree varieties listed.

**RESTRICTIONS:** Use this product on Tree plantations only in CT, MA, MD, ME, MI, NC, NH, NJ, NY, OH, OR, PA, SC, TN, VA, VT, WA and WI. Do not allow livestock to graze in treated areas.

Tree Variety	Pest	Dosage of This Product
Balsam fir, Blue spruce, Concolor fir, Douglas fir, Eastern white pine, Fraser fir, Grand fir, Noble fir, Scotch pine, White spruce	Adelgids (Cooley, Eastern spruce gall), Ants, Aphids, European pine shoot moths, European pine sawflies, Grasshoppers, Gypsy moths, Mites (European red spider, Twospotted spider [except in WA and OR]), Pales weevils (adult), Pine needle midges, Pine spittlebugs, Plant bugs, Spittlebugs, Spruce budworms, Spruce needleminers, Scales (Pine needle, Pine tortoise, Spruce bud, Black pine, Striped pine)	1 qt. per acre
REMARKS: Do not treat plants under extreme heat and drought stress. Apply to foliage in sufficient water to ensure adequate coverage. For effective control of adult Spider mites, if large numbers of eggs are present, apply a second spray 7 to 10 days after initial treatment to control newly-hatched nymphs. For Scale control, apply when Scale crawlers are active.		
Pales weevils		3 qts. per 100 gals.
REMARKS: Apply as a cut stump drench.		

**CITRUS FRUITS**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 5 days unless PPE required for early entry is worn.

Use this product at the rates indicated according to the designated geographic area to control the following pests. Use the lower rates for light infestations and increase the dosage for heavier infestations. A petroleum spray oil recommended for use on Citrus trees may be added to dilute spray mixtures only at a rate of up to 1.8 gallons per 100 gallons of water to improve control of Aphids, Mealybugs, Scale insects and Thrips. Treat when insects become a problem or in accordance with the local spray schedule recommended by your State Extension Service Specialist.

This product may be applied in tank mixtures with ethion, dicofol, Agri-Mek or Vendex. See "MIXING DIRECTIONS" for further instructions. Read and carefully follow all applicable directions, restrictions and precautions on labeling for the other products used in combination with this product.

**PRECAUTIONS:** Observe local use directions for tank-mix combinations, especially in regard to applications of this product plus spray oil. Consult with a county farm advisor, county agency, extension service personnel, agricultural commissioner or pest control advisor for such information regarding a given locality.

Do not apply when trees are stressed by drought or high temperatures. This product should not be tank mixed with Difolatan 80 Sprills as crop injury may occur. This product is highly toxic to bees exposed to direct treatment and should not be applied when bees are actively visiting the area. During the bloom period in CA, apply from one hour after sunset until two hours before sunrise.

**RESTRICTIONS:** Do not apply more than 2 applications or more than 16 pints of this product per acre per year. Do not make second foliar application within 30 days of the first application. Do not treat within 21 days of harvest for applications up to 7 pints of this product per acre nor within 35 days for application of rates above 7 pints per acre. Do not allow livestock to graze in treated areas. Do not apply more than 8 pints (4 lbs. a.i.) per acre in a single application; 12 pints (6 lbs. a.i.) per acre for red scale only in California.

Crop	Geographic Location	Pest	Dosage Pts. per Acre	Spray Volume Gals. per Acre
Grapefruit, Lemons, Oranges and other Citrus fruit	California-Fresno, Tulare, Kern, Kings, and Madera Counties Only	Red scale	12	Ground 100 to 2400

**REMARKS:** Do not use a spray concentration of this product of less than 0.5 pt. per 100 gals. of total volume.  
**Additional Precautions for AZ and CA:** This product should not be used in combination with spray oil when temperatures are expected to exceed 95°F the day of application or for several consecutive days thereafter. Do not apply during the months of December, January or February.

Grapefruit, Lemons, Oranges and other Citrus fruit	AZ, CA	Aphids, Avocado leafrollers, Cutworms, Fruitree leafrollers, Katydid, Lepidopterous larvae, Orange tortix, Western tussock moths	2 to 7	Ground: 100 to 750 Aerial: Min. 15
		Scale insects (Black scales, Brown soft scales, California red scales)	8	100 to 2400
		Mealybugs, Thrips (suppression)	6 to 8	100 to 750

**REMARKS:** Do not use a spray concentration of this product of less than 0.5 pt. per 100 gals. of total volume.  
**Additional Precautions for AZ and CA:** This product should not be used in combination with spray oil when temperatures are expected to exceed 95°F the day of application or for several consecutive days thereafter. Do not apply during the months of December, January or February.

Grapefruit, Lemons, Oranges and other Citrus fruit	FL	Aphids, Grasshoppers, Mealybugs, Orangedogs, Scale insects (Black, Brown soft, Chaff, Florida red, Long, Purple, Snow)	2 to 4	Ground: 100 to 1400 Aerial: Min. 20	
		<b>REMARKS:</b> Do not use a spray concentrate of this product of less than 0.5 pt. per 100 gals. of water per acre. Lubber grasshoppers must be controlled when they are small (less than 1 inch in length) by direct contact with spray.			
		Citrus rust mites	4 to 7	100 to 700	
<b>REMARKS:</b> Do not use a spray concentration of this product of less than 1 pt. per 100 gals. of water per acre.					

**CITRUS FRUITS (CONT.)**

Crop	Geographic Location	Pest	Dosage Pts. per Acre	Spray Volume Gals. per Acre
Grapefruit, Lemons, Oranges and other Citrus fruit	TX	Aphids, Cutworms, Katydid, Mealybugs, Scale insects (Brown soft, California red, Chaff)	4 to 7	200 to 700
		Citrus rust mites (suppression)		
<b>REMARKS:</b> Do not use less than 0.5 pt. of this product per 100 gals. of water in dilute applications.				
Small transplanted Grapefruit, Oranges and other Citrus trees	TX	Aphids, Cutworms, Katydid, Mealybugs, Scale insects (Brown soft, California red, Chaff)	Max. of 7	-
		<b>REMARKS:</b> Apply this product at a rate of 1 fl. oz. per 1 gal. of water with a backpack sprayer. Apply to runoff.		

**CITRUS ORCHARD FLOORS**

Use this product to control Red imported fire ants and other Ant species by applying the specified dose in 25 or more gallons of water with ground application equipment that will uniformly apply the spray to the orchard floor. To control foraging Ants and suppress mounds, apply this product to the orchard floor at the rate of 0.75 to 1 quart per acre. Repeat as needed. For best insect control, uniform coverage of the orchard floor is necessary. Do not apply where weed growth or other obstructions would impede uniform coverage of the orchard floor. Do not apply in tank mixtures with Evik herbicide. Foliar applications of this product may be made in addition to the orchard floor.

This product may also be applied to Citrus orchard floors through sprinkler irrigation systems only if the system uniformly covers the soil surface at the base of the tree. For best results, use the recommended amount of this product per acre. See "SPRINKLER IRRIGATION" section for further information.

**RESTRICTIONS:** Do not apply more than 10 quarts of this product per acre per season. Do not apply last treatment within 28 days before harvest. Do not allow livestock to graze in treated areas. In FL, do not apply more than 3 quarts per season.

**CRANBERRIES**

Use this product by application as a broadcast, foliar spray to control Brown spanworms, Cranberry fruitworms, Cranberry weevils, Cutworms, Fireworms and *Sparganothis* fruitworms at the rate of 3 pints per acre. Mix the specified dosage in enough water to ensure thorough coverage and apply no less than 5 gallons of spray per acre when using aerial equipment or no less than 15 gallons of spray per acre when using ground equipment. For Weevil control, apply once at flower bud development (late May, early June) and, if Weevils are present, once after 100% bloom (early- to mid-July). For other insects, treat when field counts indicate damaging insect populations are developing or present. Apply only after the Winter flood has been removed. To avoid pesticide contamination of flood water, make no applications while bogs are flooded.

This product may also be applied through sprinkler irrigation systems to control the above listed pests. For best results, use the recommended rate of this product per acre. Maintain vigorous tank agitation to assure uniformity of the application through the injection period. See "SPRINKLER IRRIGATION" section for further information.

**RESTRICTIONS:** Do not make more than 2 applications per year or apply within 60 days before harvest.

**FIELD CORN, SWEET CORN (Including Corn grown for seed)**

For use to control Aphids, Armyworms, Billbugs, Chinch bugs, Common stalk borers, Corn borers, Corn earworms, Corn rootworm adults, Cutworms, Flea beetle larvae and adults, Grasshoppers, Grubs, Lesser cornstalk borers, Symphylians, Western bean cutworms, and Wireworms.

**Pre-plant Incorporation Treatment**

Use this product at the following rates by application in sufficient water to the soil surface and incorporate into the soil:

Pest	This Product
Cutworms, Symphylians	2 pts. per acre
Billbugs, Flea beetle larvae, Grubs, Seedcorn beetles, Seedcorn maggots, Wireworms	2 pts. per acre
Corn rootworm larvae, Lesser cornstalk borers	2 pts. per acre

Use recommended rate in not less than 10 gallons of water per acre and apply as a broadcast spray to the soil surface using suitable power-operated ground spray equipment. On the same day of treatment, incorporate the insecticide into the top 2 to 4 inches of soil using a disc, field cultivator or equivalent equipment.

This product may also be applied in tank mixtures with non-pressure fertilizer solutions and/or with Bladex®, Eradicane®, Sutan®, Lasso®, Dual® and atrazine herbicides. See "MIXING DIRECTIONS" section for further information. Read and carefully follow all applicable directions, restrictions and precautions on labeling for the other products used in combination with this product.

**Pre-plant, At-plant or Pre-emergence Treatment In Conservation Tillage**

Use this product at the following rates by application in sufficient water to surface trash and exposed soil:

Pest	This Product
Amyworms, Cutworms	1 to 2 pts. per acre

Use recommended rate in not less than 20 gallons of water per acre and apply as a broadcast spray using suitable power-operated ground spray equipment. Use higher rates for residual control.

This product may also be applied in tank mixtures with non-pressure fertilizer solutions and/or with paraquat and Roundup®. See "MIXING DIRECTIONS" section for further information. Read and carefully follow all applicable directions, restrictions and precautions on labeling for the other products used in combination with this product.

**Cultivation Time Treatment**

Use this product at the rate of 2 pints per acre to control Corn rootworm larvae. Apply this product as a water emulsion on both sides of the row at the base of the plants just ahead of the cultivator shovels. Cover the insecticide with soil around the brace roots. The best time to apply a basal treatment of a soil insecticide with cultivation is near the beginning of egg hatch. A cultivation application of this product may be made in addition to an at-planting application of Chlorpyrifos 15G granular insecticide.

**Post-emergence Treatment**

Use this product at the following rate by application in sufficient water to ensure thorough coverage of treated plants:

Pest	This Product
Amyworms, Aphids, Chinch bugs, Corn rootworm adults, European corn borers (see "NOTE"), Webworms, Western bean cutworms	1 to 2 pts. per acre
Billbugs, Common stalk borers, Cutworms, Flea beetle adults, Lesser comstalk borers	2 to 3 pts. per acre
Corn earworms, Southwestern corn borers	1.5 to 2 pts. per acre
Grasshoppers	0.5 to 1 pt. per acre

**Note:** The recommended dosage will control silk clipping by Corn rootworm adults. For European corn borer control, use 1.5 to 2 pints per acre when application is made with power-operated ground and aerial equipment and 1 to 2 pints per acre when application is made through a sprinkler irrigation system. See following text for generation-specific treatment. Treat when field counts indicate that pests are or may become a problem. For best Billbug, Chinch bug and Flea beetle control, apply with sufficient water to ensure a minimum spray volume of 20 to 40 gallons per acre and 40 psi using ground spray equipment. On Corn less than 6 inches tall, apply the insecticide spray in a 9- to 12-inch wide band over the row. On Corn greater than 6 inches tall, apply the insecticide spray using drop nozzles directed to the base of the plant. Do not reduce the dosage for banded or directed applications. Concentrate the full-labeled dosage rate in the treated zone. When Chinch bugs continue to immigrate to Corn over a prolonged period or under extreme pressure, a second application of this product may be needed.

For Aphids, Armyworms, Corn rootworm adults, Corn earworms and Common stalk borer control, Cutworms, European corn borers, Grasshoppers, Lesser comstalk borers, Southwestern corn borers, Webworms, and Western bean cutworms, apply as a broadcast spray using either aerial (fixed-wing or helicopter) or power-operated ground spray equipment. For aerial application, use 2 to 5 gallons of spray per acre. Control may be reduced at low spray volumes under high temperature and wind conditions. For Cutworms, it is preferable to apply this product when soil is moist and Worms are active on or near the soil surface.

If ground is dry, cloddy or crusty at the time of treatment, Worms may be protected from the spray and effectiveness will be reduced. If such conditions exist, shallow incorporation using a rotary hoe may improve control. Consult your Agricultural Experiment Station or Extension Service Specialist for additional information concerning control practices in your area. For Webworm control, shallow incorporation using a rotary hoe or other suitable equipment, immediately before or soon after treatment, is necessary.

For first-generation European corn borer control, treat when 25 to 50 percent of the Corn plants show pinhole feeding or leaf-feeding scars. For maximum control potential, ground applications of this product should be directed into the Corn leaf whorls. Scout fields within 5 days after application to determine if a second application is needed. University research indicates that achieving greater than 50% control of first-generation European borers with a single liquid insecticide treatment is highly dependent on timing, insecticide placement and weather conditions.

Treatment for control of second-generation European corn borers should be applied when field counts of egg masses indicate an infestation is present or about to develop. For Southwestern corn borer control, treat when field counts of egg masses indicate pests are or may become a problem. A second application may be applied 10 to 14 days later, if needed, due to reinfestation. For Common stalk borer control, treat approximately 11 days after application of Roundup herbicide or after complete burn down with paraquat herbicide (3 to 5 days). Do not use this product in combination with the burn down herbicide for control of Common stalk borers.

This product may also be applied through sprinkler irrigation systems as a post-emergence broadcast application to control the above listed foliar insects. For best results, use the recommended rate of this product in a tank mix with 2 pints per acre of non-emulsifiable oil. Maintain vigorous tank agitation to assure uniformity of this product plus oil mixture throughout the injection period. This product may also be applied through sprinkler irrigation systems at the rate of 2 pints per acre to control Corn rootworm larvae. Time application to coincide with the appearance of the second instar larvae. Maintain vigorous tank agitation to assure uniformity of the application throughout the injection period. Apply with enough water to wet the root zone to the depth control that is needed. Under saturated soil conditions, allow enough soil drying to occur so that an application using a minimum water rate will not produce runoff. Consult University Extension Personnel or other experienced consultants to determine the need to treat and to aid in application timing. See "SPRINKLER IRRIGATION" section for further information.

**RESTRICTIONS:** Do not apply within 35 days before harvest of grain. Do not apply more than 2 pints (1 lb. a.i.) per acre per application. Do not make more than 3 applications per season. Do not apply more than 6 pints (3 lbs. a.i.) per acre per season. Do not allow livestock to graze in treated areas nor harvest treated Corn silage as feed for meat and dairy animals within 14 days after last treatment. Do not feed treated Corn fodder to meat or dairy animals within 35 days after last treatment.

**SWEET CORN (Grown Only in FL and GA)**

Use this product to control infestation of Beet armyworms, Corn earworms and Fall armyworms by application as a broadcast, foliar spray at the rate of 1 to 2 pints per acre. Mix the specified dosage in enough water to ensure thorough coverage and apply using suitable aerial or ground spray equipment. For aerial application, use at least 2 gallons of spray per acre. Treat when field counts indicate damaging pest populations are developing or present. Retreat as necessary to maintain control.

This product may also be applied through sprinkler irrigation systems as a post-emergence broadcast application to control the above listed foliar insects. For best results, use the recommended rate of this product in a tank mix with 2 pints per acre of non-emulsifiable oil. Maintain vigorous tank agitation to assure uniformity of this product plus oil mixture throughout the injection period. See "SPRINKLER IRRIGATION" section for further information.

**RESTRICTIONS:** Do not harvest Corn ears, allow livestock to graze in treated areas, nor feed treated silage, fodder or grain to meat or dairy animals within 21 days after treatment. Do not use in conjunction with post-plant broadcast, foliar applications of Chlorpyrifos 15G. Do not apply more than 2 pints (1 lb. a.i.) per application. Do not make more than 3 applications per season. Do not apply more than 6 pints (3 lbs. a.i.) per acre per season.

**COTTON**

Use this product for control of the following pests in all states except AZ and CA, at the dosages indicated:

Pest	This Product
Beet armyworms, Cotton budworms, Cutworms, Pink bollworms, Saltmarsh caterpillars, Tobacco budworms	1.5 to 2 pts. per acre
Cotton aphids	0.5 to 2 pts. per acre
Cotton fleahoppers, Plant bugs (Lygus, Mirids)	0.375 to 1 pt. per acre
Fall armyworms, Grasshoppers, Thrips, Yellowstriped armyworms	0.5 to 1 pt. per acre
Spider mites	1 pt. per acre

**Note:** The recommended dosage rate of 0.375 pint per acre will not achieve the high degree of control of the highest label rate, but will minimize the damage done by Plant bugs and Cotton fleahoppers and allow the beneficial insects to survive, build up and be available to aid in the control of Bollworms infesting Cotton. For infestations of Cotton aphids that are difficult to control, use a higher dosage within the indicated rate range.

Use this product for control of the following pests in AZ and CA at the dosages indicated:

Pest	This Product
Armyworms, Cotton aphids, Cotton fleahoppers, Lygus, Saltmarsh caterpillars, Thrips	1 to 2 pts. per acre
Boll weevils, Cotton bollworms, Cutworms, Pink bollworms, Tobacco budworms	2 pts. per acre

**Note:** The 2 pint rate will aid in the suppression of Cotton leafperforators and Spider mites.

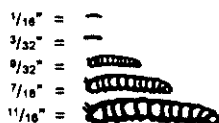
Mix the required dosage with sufficient water to ensure thorough coverage of plants and apply using aerial or power-operated ground spray equipment. For aerial application, use at least 1 gallon of spray per acre. Treat when field counts indicate damaging insect populations are developing or present. Retreat as necessary to maintain control.

This product may also be applied through sprinkler irrigation systems as a post-emergence broadcast application to control the above listed foliar pests. For best results, use the recommended rate of this product per acre. Maintain vigorous tank agitation to assure uniformity of the application throughout the injection period. See "SPRINKLER IRRIGATION" section for further information. For effective control of Spider mites when large numbers of eggs are present, apply a second spray 3 to 5 days after initial treatment to control newly hatched nymphs. For best results on Bollworms and Budworms, it is suggested that fields be scouted twice per week and treatments made when worms are one-fourth inch or less in length. The following table illustrates the size of worms in relation to age and stage of development (instar) as a guide to timing of treatments for best control.

From the table it can be seen that a scouting schedule of only once per week will not be satisfactory since the worms may be too big to control effectively by the seventh or eighth day.

Timing for the Best Worm Control

	Age (Days)	Size	Instar
Get the worms at this stage	Hatch	1/16"	Hatch
	3	2/32"	I
	5	3/32"	II
	6	7/16"	III
	8	1 1/16"	IV



Proper application techniques help to ensure thorough spray coverage and correct dosage and are thus important in obtaining good control of pests. Consider these suggestions when applying this product on Cotton.

#### Aerial Application

Shorten boom length to avoid spray entering the vortices at the wing tips. Swath width should be reduced when wind direction is the same as direction of spraying. The proper nozzle arrangement and swath width to avoid skips and vortices effect can be checked out by flying over a paper tape (adding machine paper) using water with or without soluble dye. (The dye gives a permanent record.) Flying at a height of 5 to 15 feet above the target results in the best coverage.

Nozzle orientation of the boom is important. More breakup occurs when nozzles are pointed straight down versus the straight back position. Desired droplet size (100 to 200 microns) can be obtained by angling the nozzles somewhere in this range.

Marking of swath by flagging or permanent markers is essential.

#### Ground Application

Orient the boom and nozzles so that uniform coverage is obtained. The swath width should not be wider than the boom; drift spray is wasted spray, so do not depend on it. Use flat fan or disc-core hollow cone nozzles with maximum spacing of 20 inches and a spray pressure of 40 to 60 psi with a droplet size of 100 to 200 microns.

**RESTRICTIONS:** Do not apply within 14 days before harvest or make more than 3 applications per season. Do not apply more than 6 pts. (3 lbs. a.i.) per acre per season. Do not allow livestock to graze in treated areas. Do not feed gin trash or treated forage to livestock.

#### FIGS

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval of 4 days unless PPE required for early entry is worn.

Use this product at the rate of 2 quarts per acre for control of Dried-fruit beetles by application in sufficient water to the soil surface followed by incorporation into the top 3 inches of soil. Apply to Fig orchard soil as a dormant application in late Winter prior to Beetle emergence and prior to leaf formation.

**RESTRICTIONS:** Make only one application per year. Do not apply within 7 months of harvest. Based on available residue data, use of this product on Figs is restricted to CA.

#### GRAPES

Use this product for control of Grape root borers by application just before the pests emerge from the soil. Mix 4.5 pints of this product with 100 gallons of water and apply 2 quarts of the diluted spray mixture to the soil surface on a 15 square foot area around the base of each vine. Do not allow spray to contact fruit and foliage.

**RESTRICTIONS:** Do not make more than one application per season or apply within 35 days before harvest. Based upon available residue data, the use of this product on Grapes is restricted to states East of the Rocky Mountains.

#### MINT

Use this product by application as a broadcast, foliar spray to control Cutworms at the rate of 2 to 4 pints per acre and Mint root borers at the rate of 4 pints per acre. Mix the specified dosage in water to give no less than 10 gallons of spray per acre and apply using ground spray equipment. For Cutworm control, treat during May and June when field counts indicate damaging insect populations are developing or present. When larvae are less than three-fourths inch in length, use the 2 pint rate. When larvae are three-fourths inch or more in length, use the higher rate. Make only one application during the growing season. Do not apply within 90 days before harvest. For Mint root borer control, apply post-harvest when field counts indicate damaging Insect populations are developing or present.

Follow treatment with approximately 1 acre inch of sprinkler irrigation immediately after application to incorporate the insecticide into the soil. Make only one post-harvest application per season.

This product may also be applied through sprinkler irrigation systems as a post-emergence broadcast application to control the above listed pests. For best results, use the recommended rate of this product per acre. Maintain vigorous tank agitation to assure uniformity of the application throughout the injection period. See "SPRINKLER IRRIGATION" for further information.

#### NECTARINES, PEACHES

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval of 4 days unless PPE required for early entry is worn.

Use this product for the control of Peach tree borers by application as a trunk spray before newly hatched Borers enter the trees. Mix 3 quarts of this product with 100 gallons of water and apply as a coarse, low-pressure spray to give uniform coverage of tree trunks. Thoroughly wet all bark areas from ground level to scaffold limbs. Do not allow spray to contact fruit. Consult your State Agricultural Experiment Station or Extension Service Specialist's written recommendations for proper time to treat in your area.

This product may also be used as a pre-plant dip application for non-bearing Peach trees at the equivalent application rate of 3 quarts per 100 gallons of water for control of Peach tree borers. Dip trees several inches above the grafting bud scar and plant immediately or allow to dry before returning to storage. Do not allow Peach trees to remain in contact with the dip solution.

**RESTRICTIONS:** Make only one application per season. Do not apply within 14 days before harvest. Do not allow meat or dairy animals to graze in treated orchards.

#### ONIONS (Dry Bulb)

Use this product to control Onion maggots by application as an in-furrow drench. Apply this product at the rate of 1.1 fluid ounces per 1,000 linear feet of row at an 18-inch row spacing. Use a minimum of 40 gallons of total drench per acre. Incorporate to a depth of 1 to 2 inches.

**RESTRICTIONS:** Do not make more than one application per year.

#### PEANUTS

For suppression of Wireworms, apply this product at the rate of 4 pints per acre as a pre-plant, broadcast spray to the soil surface followed by immediate soil incorporation to a depth of 3 to 4 inches. Use a minimum of 10 gallons of total spray per acre.

**RESTRICTIONS:** Do not make more than one application per season. Do not harvest within 21 days after treatment. Do not feed treated Peanut forage or hay to meat or dairy animals. Aerial application to peanuts is prohibited.

#### SORGHUM

Use this product for control of the following pests at the dosage indicated:

Pest	This Product
Amyworms, Corn earworms, Cutworms	1 to 2 pts. per acre
Chinch bugs, Lesser cornstalk borers	1 to 2 pts. per acre
SPECIFIC DIRECTIONS: Apply as a directed spray toward the base of the plant using power-operated ground spray equipment with sufficient water to ensure coverage of an 8 to 12 inch band centered on the row. On plants less than 6 inches high, apply an 8 to 12 inch band over the row. Do not reduce the dosage for banded or directed applications. Concentrate the full labeled dosage rate in the treated zone.	
European and Southwestern corn borers	1.5 to 2 pts. per acre
Grasshoppers, Yellow sugarcane aphids and other aphids	0.5 to 1 pt. per acre
Greenbugs	0.5 to 2 pts. per acre
SPECIFIC DIRECTIONS: For infestations of Greenbugs that are difficult to control, use a higher dosage within the indicated rate range.	
Sorghum midges	0.5 pt. per acre
SPECIFIC DIRECTIONS: Apply when 30 to 50% of the seed heads are in bloom. Repeat at 3 day intervals if necessary.	
Webworms	1 pt. per acre

Mix the specified dosage in enough water to ensure thorough coverage and apply using suitable aerial or ground spray equipment. To minimize chemical injury, do not apply this product to drought-stressed Grain sorghum within 3 days following irrigation or rain, except where the product is applied in irrigation water.

This product may also be applied through sprinkler irrigation systems as a post-emergence, broadcast application to control the above listed foliar pests. For best results, use the recommended rate of this product per acre. Maintain vigorous tank agitation to assure uniformity of the application throughout the injection period. See "SPRINKLER IRRIGATION" section for further information.

**RESTRICTIONS:** The treated crop is not to be used for grain, forage, fodder, hay or silage within 30 days after application of 1 pint of this product per acre or within 60 days after application of rates above 1 pint per acre. Do not treat sweet varieties of Sorghum. Do not apply more than 3 pints of this product per acre per season. Do not make more than 3 applications per season.

**SOYBEANS**

For use to control Armyworms, Bean leaf beetles, Corn earworms, Cutworms, European corn borers, Grasshoppers, Green cloverworms, Lesser cornstalk borers, Mexican bean beetles, Saltmarsh caterpillars and other Woollybears, Southern green stink bugs, Spider mites and Velvetbean caterpillars.

**Soil Treatment**

Use this product at the rate of 1 to 2 pints per acre to control Cutworms and Lesser cornstalk borers. Mix the specified dosage in a minimum of 10 gallons of spray per acre and apply to the soil surface using suitable ground spray equipment. Equivalent rates of insecticide spray required per 100 feet of row for various row spacing are given in the accompanying table. For at-plant treatments, apply the insecticide over the row in a 4 to 6 inch band in front of the planter shoe or press wheel or after the press wheel followed by a drag chain for light incorporation. Do not apply as an in-furrow treatment. For post-emergence rescue treatments, apply as a directed spray in a 9 to 12 inch band at the base of the plant. To plants under 6 inches high, apply over-the-top in a 6 to 12 inch band. Treat when field counts or conditions indicate that pests are or may become a problem.

Fluid Ounces of Spray Required per 100 Feet of Row for Various Row Spacing				
Volume of Spray per Acre	36"	32"	28"	24"
10 gallons	8.8	7.9	6.9	5.9
15 gallons	13.2	11.8	10.3	8.8
20 gallons	17.6	15.7	13.7	11.8

**Foliar Treatment**

Use this product at the following rate by application in sufficient water to ensure thorough coverage of treated plants:

Pest	This Product
Armyworms, Mexican bean beetles	1 to 1.5 pts. per acre
Bean leaf beetles, Corn earworms, Cutworms, Saltmarsh caterpillars and other Woollybears	1 to 2 pts. per acre
European corn borers, Southern green stink bugs	2 pts. per acre
Grasshoppers, Green cloverworms, Spider mites, Velvetbean caterpillars	0.5 to 1 pt. per acre

Apply as a broadcast spray using either aerial or ground equipment when field counts indicate damaging insect populations are developing or present; re-treat as necessary to maintain control. For effective control of Spider mites, when large numbers of eggs are present, apply a second spray 3 to 5 days after initial treatment to control newly-hatched nymphs. On determinate Soybeans, do not apply more than one application after pod set.

This product may also be applied through sprinkler irrigation systems as a post-emergence, broadcast application to control the above listed foliar pests. For best results, use the recommended rate of this product per acre. Maintain vigorous tank agitation to assure uniformity of the application throughout the injection period. See "SPRINKLER IRRIGATION" section for further information.

**RESTRICTIONS:** Do not apply more than 6 pints (3 lbs. a.i.) per acre per season. Do not make more than 3 applications per season. Do not apply last treatment within 28 days before harvest nor apply last two treatments closer than 14 days apart. Do not allow livestock to graze in treated areas or otherwise feed treated Soybean forage, hay and straw to meat or dairy animals.

**STRAWBERRIES**

Use this product by application as a broadcast foliar spray to control Strawberry bud weevils at the rate of 1 quart per acre. Apply in a minimum of 40 gallons of spray per acre when buds first appear and 10 to 14 days later. Do not apply after berries start to form or when berries are present. This product should not be tank-mixed with pesticides, surfactants or fertilizer formulations unless prior use has shown the combination non-injurious under your current conditions and use. Phytotoxicity may occur when this product is applied to Strawberries experiencing high temperature and drought stress.

**RESTRICTIONS:** For pre-bloom use only. Do not make more than two applications per season or apply within 21 days before harvest.

**SUNFLOWERS**

For use to control Banded sunflower moths, Cutworms, Grasshoppers, Seed weevils, Stem weevils, Sunflower beetle larvae and adults, Sunflower moths and Woollybears.

**Pre-Plant Incorporation Treatment**

Use this product at the following rates by application in sufficient water to the soil surface and incorporate into the soil:

Pest	This Product
Cutworms	2 to 4 pts. per acre

Use recommended rate in not less than 10 gallons of water per acre and apply as a broadcast spray to the soil surface using suitable power-operated ground spray equipment. On the same day of treatment, incorporate the insecticide into the top 2 to 4 inches of soil using a disc, field cultivator or equivalent equipment.

**Post-emergence Treatment**

Use this product for control of the following pests at the dosage indicated by application in sufficient water to ensure thorough coverage of treated plants:

Pest	This Product
Cutworms	2 to 3 pts. per acre
Banded sunflower moths, Seed weevils, Stem weevils, Sunflower beetle larvae and adults, Sunflower moths and Woollybears	1 to 1.5 pts. per acre
Grasshoppers	1 pt. per acre

Apply as a broadcast spray using either aerial (fixed-wing or helicopter) or power-operated ground spray equipment when field counts indicate that pests are or may become a problem. For Cutworm control, a second treatment may be made 7 to 10 days later, if needed. For Stem weevil control, optimal treatment time is within 5 to 7 days after adult Weevils begin to appear. For Sunflower moth control, make first application during early 1 to 5 percent bloom stage. A second treatment may be made 7 days later if needed. For Seed weevil control, treat when field counts indicate there are 10 to 12 adults per plant for oil crops and 1 to 3 adults per plant on confectionery crops. Additional treatments should be made at successive 7 to 10 day intervals if field counts indicate need to re-treat. For Sunflower beetle larvae or adult control, treat when field counts indicate there are 10 larvae or 1 to 2 adults per seedling. Additional treatments may be made at successive 7 to 10 day intervals if field counts indicate need to re-treat.

**RESTRICTIONS:** Do not apply more than 6 pints of this product per acre per season. Do not make more than 3 applications per season. Do not apply within 42 days before harvest. Do not allow livestock to graze in treated areas.

**SUGAR BEETS**

Apply this product as a broadcast foliar spray at a rate of 0.5 to 1 pint per acre to control Grasshoppers, 1.5 to 2 pints per acre to control Beet armyworms and 2 pints per acre to control Cutworms. Treat when field counts indicate that damaging insect populations are or may be a problem. Mix the specified dosage with 2 to 5 gallons of water per acre and apply using suitable aerial spray equipment or with 10 to 30 gallons of water per acre when using power-operated ground spray equipment. Re-treat as necessary to maintain control.

**RESTRICTIONS:** Do not apply within 30 days before harvest of Beet roots and tops. Do not make more than 3 applications per season. Do not apply more than a total of 6 pints (3 lbs. a.i.) per acre per season. Do not allow livestock to graze in treated areas nor harvest treated Beet tops as feed for meat or dairy animals within 30 days after last treatment.

**SWEET POTATOES**

Use this product to reduce the feeding damage caused by populations of *Conoderus* wireworms, *Systema* flea beetles and the Sweet potato flea beetle. Apply at the rate of 4 pints per acre as a broadcast (overall) spray to the soil surface followed by incorporation. Mix the specified dosage with enough water to obtain uniform coverage and apply as coarse spray using suitable ground spray equipment. Incorporate the insecticide to a depth of 4 to 6 inches as soon as possible after application by using a rotary hoe, disc cultivator or other suitable incorporation equipment. Plant the crop in the usual manner no later than 14 days after treatment (any delay in planting will reduce the length of time that this product will protect against feeding damage). This product will not control False wireworms or Whitefringed beetles or other Grubs that attack Sweet potatoes.

**RESTRICTIONS:** Do not make more than one application per season. Do not harvest within 125 days of treatment.

**TOBACCO\***

Use this product for pre-plant treatment to control larvae of Cutworms, Flea beetles, Mole crickets, Root maggots and Wireworms. Apply 4 pints (2 lbs. a.i.) of this product per acre in not less than 10 gallons of water as a broadcast (overall) spray to the soil surface one week before transplanting. Immediately following application, incorporate the insecticide into the soil to a depth of 2 to 4 inches using suitable equipment. The application of this product will also suppress the movement of imported Fire ants into treated fields.

To control the above Insects and low to moderate populations of Root-knot nematodes in NC, SC and VA, use this product at the rate of 4 pints (2 lbs. a.i.) per acre. To control the above Insects and moderate populations of Root-knot nematodes in all Tobacco growing regions, use this product in a tank mix with Nemacur® 3 per acre. Read and carefully follow all applicable directions, restrictions and precautions on labeling for Nemacur 3 used in combination with this product.

Apply the specified dosage in not less than 10 gallons of water as a broadcast (overall) spray to the soil surface 24 to 48 hours before bedding and transplanting. Immediately following application, incorporate into the soil to a depth of at least 4 inches using suitable equipment. Where the nematode species *Meloidogyne arenaria* or *M. javanica* are present or high populations of *M. incognita*, apply Telone® II soil fumigant at the recommended label rate.

**RESTRICTION:** Do not apply more than 4 pints (2 lbs. a.i.) per application. Do not make more than one application per season. Do not apply more than 4 pints (2 lbs. a.i.) per acre per season. \*Not Registered for Use in CA.

**TREE FRUITS**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 days unless PPE required for early entry is worn.

Use this product as a dormant or delayed dormant spray at the rates indicated to control the following Insects on the crops listed. While this product may be used without oil, oil is recommended to control additional pests such as European red mites.

Crop	Pest	This Product per 100 Gals. of Spray*
Almonds, Peaches, Nectarines	Climbing cutworms, Peach twig borers, San Jose scales	0.5 to 1 pt.  (Use a minimum of 1.5 pts. per acre)
Apples (1)	Climbing cutworms, Lygus, Oblique-banded leafrollers, <i>Pandemis</i> leafrollers, Rosy apple aphids, San Jose scales	
Pears	Climbing cutworms, Pear psylla adults, San Jose scales	
Plums, Prunes	Climbing cutworms, Mealy plum aphids, Peach twig borers, San Jose scales	

\*Based on 200 to 600 gallons per acre as a dilute spray.  
(1) Post-bloom use on Apple trees is prohibited.

For dilute spray, tank mix the specified dosage with 1 to 2 gallons of petroleum spray oil recommended for dormant use in 100 gallons of water and spray the entire tree by application to runoff using suitable ground spray equipment. (See "ADDITIONAL PRECAUTIONS SPECIFIC TO CA" section for use in CA.)

For low volume (concentrate) sprays (less than 200 gallons of spray mixture per acre), use the same amount of this product as for a dilute spray and apply in a manner that will ensure thorough coverage of trees. Use the higher dosage of this product for severe infestations. Use oil as recommended by your State Agricultural Experiment Station or Extension Service Specialist.

**PRECAUTIONS:** Because cold or dry conditions may cause this product plus oil sprays to infuse trees resulting in bud damage or drop, do not apply until Winter rains or irrigation has replenished soil moisture such that bark and twigs are not desiccated. Do not use more than 4 pints of this product per acre.

**Additional Precautions Specific to CA:** Use a minimum of 250 gallons of total spray volume per acre. Do not use more than 4 gallons of spray oil per acre on Almonds, Peaches or Nectarines. Do not use any adjuvants or surfactants in addition to or as a substitute for a petroleum spray oil in a tank mix with this product. Do not apply on Almonds in the following counties in CA: Butte, Colusa, Glenn, Solano, Sutter, Tehama, Yolo and Yuba.

**RESTRICTIONS:** Make only one application during the dormant season. Do not allow meat or dairy animals to graze in treated orchards. Do not make post-bloom applications on Apples.

**TREE NUTS**

Use this product at the dosage indicated by application as a foliar spray to control pests listed in the following table. Mix the required dosage in sufficient water to ensure thorough and complete coverage of the foliage and crop and apply as a concentrate or dilute spray using conventional, power-operated spray equipment. For di-

lute sprays applied to Tree nut crops, mix the required dosage in sufficient water to allow for spray to runoff. For concentrate sprays, apply an equivalent amount of this product per acre. Treat when pests appear or in accordance with local conditions. Insect control by aerial application may be less than control by ground application because of less coverage. Consult your State Agricultural Experiment Station, Certified Pest Control Advisor or Extension Service Specialist for specific use information in your area.

**ALMONDS, FILBERTS, WALNUTS**

Use this product at the rates indicated to control the listed pests.

Crop	Pest	Dosage
Almonds	Navel orangeworms, Peach twig borers, San Jose scales	4 pts. per acre
Filberts	Eyespotted bud moths, Filbert aphids, Filbert leafrollers, Filbert worms, Obliquebanded leafrollers, Omnivorous leafliers, Winter moths	3 to 4 pts. per acre
Walnuts	Codling moths, Walnut scales	4 pts. per acre

**RESTRICTIONS:** Make no more than 3 foliar applications per season on Almonds and Filberts and no more than 2 applications per season on Walnuts. Do not apply within 14 days of harvest. Do not allow livestock to graze in treated orchards. Do not apply more than 8 pints (4 lbs. a.i.) per acre per season.

**PECANS**

Use this product at the rates indicated to control the listed pests.

Pest	Dosage of This Product Dilute or Concentrate Pts. per Acre
Black margined aphids, Yellow pecan aphids	1 to 4 pts. plus 5.33 fl. ozs. of Pydrin 2.4E OR 1.7 fl. ozs. Asana 1.9EC OR 3.0 fl. ozs. of Ammo 2.5EC OR 2.56 fl. ozs. of Cymbush 3E
Black pecan aphids, Fire ants and other Ant species <sup>1</sup> , Hickory shuckworms <sup>2</sup> , Pecan leaf scorch mites (suppression) <sup>3</sup> , <i>Phylloxera spp.</i> <sup>4</sup>	2 to 4
Fall webworms, Pecan nut casebearers	1.5 to 4

**RESTRICTIONS:** Make no more than five applications per year. Do not apply more than 8 pints (4 lbs. a.i.) per acre per season. Do not apply within 28 days of harvest. Do not allow livestock to graze in treated orchards. Make no applications of tank mixtures closer to harvest than the longest pre-harvest interval shown for any of the products in the tank mixture. For dilute applications with ground equipment, use at least the minimum rate of this product listed for the pest. Apply in 100 to 600 gallons of water per acre. For aerial applications, use 5 to 15 gals. of water per acre. Note: With aerial application, control may be reduced due to poor coverage.

<sup>1</sup> For Ant control, apply as an orchard floor spray. Do not apply where weed growth or other obstructions prevent uniform coverage of the orchard floor.  
<sup>2</sup> For best results, make 2 applications, 10 to 14 days apart.  
<sup>3</sup> To suppress Pecan leaf scorch mites, use a preventative program.  
<sup>4</sup> For best *Phylloxera spp.* control, make 2 applications at 7 to 10 day intervals using a minimum of 1 pt. of this product per acre, starting at bud swell.

**ALMOND ORCHARD FLOORS**

Use this product to control Southern fire ants and Pavement ants by applying the specified dose with ground application equipment that will uniformly apply the spray to the orchard floor. Use when Ant activity becomes evident within the orchard.

Since worker Ants cease most of their foraging activity at temperatures above 90°F, best results will be achieved with applications made at temperatures below 90°F at the time of application. Dosage of this product and spray volume may vary depending on the irrigation method employed in the orchard as follows:

**Ant Control in Sprinkler- or Drip-Irrigated Orchards**

Apply this product as a broadcast spray to the entire orchard floor using ground spray equipment at 4 to 8 pints per acre in 25 or more gallons of water. Use the high rate for heavy infestations and the low rate for light infestations. In orchards where Ant activity is concentrated around the irrigation emitters, apply the high rate to a 6 to 8 foot band along the drip-irrigation line and the low rate to the rest of the orchard.

**Ant Control in Flood-Irrigated Orchards**

Apply this product at 4 to 8 pints per acre in 25 or more gallons of water to the entire orchard floor using ground spray equipment. Apply the high rate to heavily infested areas and the low rate to lightly infested areas. Where Ant colonies are abundant only in the berm areas, apply this product at 8 pints per treated acre in 50 or more gallons of water to a 6 to 10 foot band along the treeline (berm). Do not apply where weed growth or other obstructions would impede uniform coverage of the orchard floor. Mow or chemically control weeds before the application of this product. Foliar applications of this product may be made in addition to the orchard floor treatment.

**RESTRICTIONS:** Do not make more than 2 applications per season. Do not apply more than 8 pints (4 lbs. a.i.) per season to the orchard floor. Do not apply the last treatment within 14 days of harvest. Do not allow livestock to graze in treated orchards.



**VEGETABLES**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days for Cauliflower and 24 hours for all other vegetables unless PPE required for early entry is worn.

Use this product at the dosages indicated to control the pests listed in the following table. To avoid phytotoxicity in Vegetables, except Brussels sprouts, do not mix with other pesticide products or treat plants that are under extreme heat and drought stress.

Crop	Pest	Dosage of This Product
Broccoli, Cabbage	Root aphids	1.2 fl. ozs. per 1,000 ft. of row for single row plantings and 2.4 fl. ozs. per 1,000 linear ft. of row for double row plantings
	USE DIRECTIONS: Apply this product in a water emulsion or with liquid fertilizer injected as a side dress on each side of the row after plants are established. Avoid mechanical damage to crop roots. Use a minimum of 15 gals. of total spray volume per acre.	

**RESTRICTIONS:** Do not apply more than 2.6 pints of this product per acre to Broccoli or Cabbage planted in 40 inch rows. Do not apply more than 4.5 pints of this product per acre to these crops in 20 inch rows (or two rows per bed). Use proportional amounts for other row spacings not to exceed 4.5 pints of this product per acre. Do not make more than one application per season within 30 days before harvest.

Broccoli, Brussels sprouts, Cabbage, Chinese cabbage, Collards, Kale, Kohlrabi, Turnips	Root maggots	1.6 to 2.75 fl. ozs. per 1,000 linear ft. of row
	USE DIRECTIONS: For direct-seeded crops, apply the specified dosage in a water-based spray as a 4 inch wide band over the row at planting time. Shallow incorporation is necessary. Placement behind the planter shoe and in front of the press wheel is recommended. For transplanted crops, apply this product as a water-based spray directed to the base of the plants immediately after setting. Use a minimum of 40 gals. of total spray per acre. Do not add any additional adjuvants, surfactants or spreader stickers. Do not apply as a foliage application.	

**RESTRICTIONS:** Do not apply more than 2.6 pts. of this product per acre to Broccoli, Brussels sprouts, Cabbage, Chinese cabbage, Collards, Kale, Kohlrabi and Turnips planted in 40 inch rows. Do not apply more than 4.5 pts. of this product per acre to these crops in 20 inch rows (or two rows per bed). Use proportional amounts for other row spacings not to exceed 4.5 pts. of this product per acre. Do not make more than one application per season within 30 days before harvest.

Brussels sprouts	Amyworms, Cabbage aphids, Cutworms, Imported cabbage-worms, Striped flea beetles (adult)	1 to 2 pts. per acre
	USE DIRECTIONS: Apply this product with conventional power-operated equipment in 20 to 150 gals. of water per acre. Apply when insects appear on foliage and at 7 to 14 day intervals or thereafter as needed. Consult your State Agricultural Station, Extension Service Specialist or Integrated Pest Control Advisor for proper time to treat in your area.	

**RESTRICTIONS:** Do not make more than 6 applications per season. Do not apply within 21 days before harvest.

Cauliflower	Root maggots	1.6 to 2.4 fl. ozs. per 1,000 linear ft. of row
	USE DIRECTIONS: For direct-seeded crops, apply the specified dosage in a water-based spray as a 4 inch wide band over the row at planting time. Shallow incorporation is necessary. Placement behind the planter shoe and in front of the press wheel is recommended. For transplanted crops, apply this product as a water-based spray directed to the base of the plants immediately after setting. Use a minimum of 40 gals. of total spray per acre. Do not add any additional adjuvants, surfactants or spreader stickers. Do not apply as a foliage application.	

**RESTRICTIONS:** Do not apply more than 2 pints of this product to Cauliflower planted in 40 inch rows. Use proportional amounts for other row spacings not to exceed 4 pts. of this product per acre. Do not make more than one application per season within 30 days before harvest.

Radishes	Root maggots	1 fl. oz. per 1,000 linear ft. of row
	USE DIRECTIONS: Apply the specified dosage as a water-based drench in the seed furrows with the seed at planting time. Use a minimum of 40 gals. of total drench per acre.	

**RESTRICTIONS:** Do not apply more than 5.5 pts. of this product per acre or make more than one application per season.

(CONTINUED)

**VEGETABLES (CONT.)**

Crop	Pest	Dosage of This Product
Rutabagas	Root maggots	1.6 to 3.3 fl. ozs. per 1,000 linear ft. of row
	USE DIRECTIONS: Apply the specified dosage in a water-based spray as a 4 inch wide band over the row at planting time, behind the planter shoe and in front of the press wheel to achieve shallow incorporation. Use a minimum of 40 gals. of total spray volume per acre.	

**RESTRICTIONS:** Do not apply more than 4.5 pts. of this product per acre or make more than one application per season. Do not use Rutabaga tops for food or feed purposes.

**WHEAT**

For use only in Arizona, California, Colorado, Idaho, Kansas, Minnesota, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming.

For use to control Aphids (including Russian wheat aphid), Wheat midge, Brown wheat mite, Grasshoppers, Army cutworms and to provide suppression of other Cutworm species.

Crop	Pest	Dosage of This Product Per Acre
Wheat	Aphids (including Russian wheat aphid), Brown wheat mite, Grasshoppers	0.5 to 1 pint
	USE DIRECTIONS: From emergence to flowering, treat when 15 to 20% of tillers are infested. From flowering to early milk stage, treat when 20% or more of tillers are infested.	
	Wheat midge (orange wheat blossom midge)	1 pint
	USE DIRECTIONS: Treatment is recommended when 75% of the wheat heads have emerged from the boot and when midge adults are found in the crop (1 midge per 4 to 5 heads). Application timing is critical to ensure good control. If possible, apply in the late afternoon or early evening when temperatures exceed 50°F and wind speed is less than 7 mph.	
	Army cutworms, other Cutworm species (suppression only)	1 pint
	USE DIRECTIONS: Control may be reduced under high temperature conditions (greater than 80°F), under dry soil conditions, or if larvae are more than one-half inch long. Treat when field counts or crop injury indicates that damaging pest populations are developing or present. A second application of 1 pint per acre may be made for additional control.	
Cereal leaf beetle	1 to 2 pints	
USE DIRECTIONS: Target application when eggs are near hatching and larvae emerging as monitored by plant inspection.		

Mix the required dosage with water and apply in a minimum of 2 gallons per acre finished spray volume. Apply using aerial (fixed wing or helicopter) or power-operated ground spray equipment. For effective coverage of wheat heads using ground application, apply in a minimum of 10 gallons per acre of spray through appropriate nozzles. Higher spray volumes have increased crop protection at the recommended dosage. This product may also be applied through sprinkler-irrigation systems at recommended broadcast application rates to control listed foliar pests (see directions above). Report any bird or fish kills which may be associated with the use of this product by calling 1-212-661-8800.

**RESTRICTIONS:** Do not make more than 2 applications per crop. Do not apply within 28 days of harvest. Do not allow livestock to graze or otherwise feed on treated forage within 14 days of application. Do not feed straw from treated Wheat within 28 days of application. Do not apply directly to bodies of water. Do not apply this product where runoff is likely to occur to aquatic habitats (including lakes, public reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries or other natural waters). Do not apply when weather conditions favor drift or runoff from treated areas.

**Ground Application**

For ground applications, the distance from treated areas to aquatic habitats (including lakes, public reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries or other natural waters) must be 30 feet or more. Do not make ground application if wind speed is greater than 15 mph. Do not apply at spray boom pressures greater than 15 mph. Do not apply at spray boom pressures greater than 45 psi.

**Aerial Application**

Do not apply by air within 300 feet of aquatic habitats (including lakes, public reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries or other natural waters). Do not make aerial applications of this product when wind speeds exceed 10 mph or when an atmospheric temperature inversion exists. Boom length should not exceed 75% of the wing span and release height for aerial applications should be no greater than 10 feet above the crop canopy.

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### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. **PESTICIDE STORAGE:** Store in original container in secured, dry storage area. Prevent cross-contamination with other pesticides and fertilizers. Do not store above 100°F for extended periods of time. Storage below 20°F may result in formation of crystals. If product crystallizes, store at 50° to 70°F and agitate to redissolve crystals. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

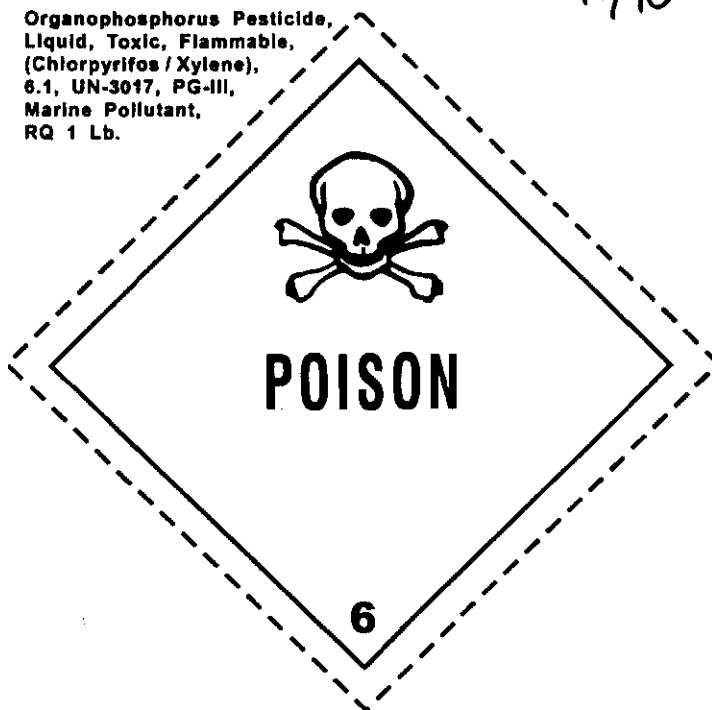
**PESTICIDE DISPOSAL:** Open dumping is prohibited. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL FOR NON-REFILLABLE CONTAINERS:** Triple rinse (or equivalent). Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and Local authorities.

—OR—

Triple rinse (or equivalent). Then puncture and dispose in a sanitary landfill or by incineration or if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

Organophosphorus Pesticide,  
Liquid, Toxic, Flammable,  
(Chlorpyrifos / Xylene),  
6.1, UN-3017, PG-III,  
Marine Pollutant,  
RQ 1 Lb.



### WARRANTY—CONDITIONS OF SALE

OUR RECOMMENDATIONS FOR USE of this product are based upon tests believed reliable. Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the Seller. Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith.

In no case shall the Manufacturer or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with directions given herewith. The foregoing is a condition of sale by the Seller and is accepted as such by the Buyer.

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Complex is a registered trademark of Kalo, Inc.  
Dual is a registered trademark of CIBA-Geigy Corp.  
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