

GROUP

3A

INSECTICIDE



**Tersus**<sup>®</sup>  
INSECTICIDE



- Provides rapid knockdown and kill of listed plant pests
- Can be used on day of harvest
- For use on over 200 fruits and vegetables
- Kills more than 100 insects
- Flushes insects from hiding

**ACTIVE INGREDIENT:**

Pyrethrins .....	5.00%
<b>OTHER INGREDIENTS</b> .....	95.00%
	100.00%

This product contains 0.392 lbs. Pyrethrins per gallon.

EPA Reg. No. 1021-2616

EPA Est. No. 1021-MN-2

**KEEP OUT OF REACH OF CHILDREN  
CAUTION / PRECAUCION**

**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 inside booklet for Precautionary Statements, Directions for Use and Storage and Disposal.**

**FIRST AID**

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice.

Have person sip a glass of water if able to swallow.

Do not induce vomiting unless told to do so by the poison control center or doctor.

Do not give anything by mouth to an unconscious person.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes.

Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

Call a poison control center or doctor for treatment advice.

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**FIRST AID (continued)**

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-888-740-8712 for emergency medical treatment information.

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION**

Harmful if absorbed through skin. Harmful if swallowed. Causes moderate eye irritation. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves.

**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 E on an EPA chemical-resistance category selection chart.

Mixers, loaders, applicators, and other handlers must wear the following:

- long-sleeved shirt,
- long pants,
- shoes and socks, and
- chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton.

In addition to the above PPE, applicators using hand-held foggers in an enclosed area must wear:

- A particulate respirator with any N, R or P filter with NIOSH approval prefix TC-84A, or
- A NIOSH-approved gas mask with a canister filter with NIOSH approval prefix TC-14G, or
- A NIOSH-approved powered air purifying respirator with HE filter with NIOSH approval prefix TC-21C.

Follow manufacturer's instructions for cleaning/maintaining 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 the product's concentrate. Do not reuse them.

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

### USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

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

Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

This product is toxic to aquatic organisms, including fish and invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. This product may contaminate water through runoff. This product has a potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging in the treatment area. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

### DIRECTIONS FOR USE

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 for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR, Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

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PPE required for early entry to treated areas (that is permitted under Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water), is:

- Long-sleeved shirt and long pants,
- Chemical-resistant gloves, such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton;
- Shoes plus socks.

### 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 until vapors, mists, and aerosols have dispersed, and the treated area has been thoroughly ventilated.

Do not enter or allow others to enter until sprays have dried.

### INDOOR AREAS for use in and around:

Canneries, Storage or Processing Areas that contain Dried Fruit Products, Food Processing Plants, Food Storage Areas, Frozen Food Plants, Fruit Packing Sheds, Grain Elevators, Grain Harvesting and Handling Equipment, Grain Mills, Granaries, Greenhouses, Herb warehouses, Meat Packing Plants, Peanut Warehouses, Rice Mills, Seed Production Facilities, Seed Warehouses, Tobacco Factories, Tobacco Warehouses, USDA Inspected Facilities, Wheat Mills.

### OUTDOOR AREAS for use in and around:

Nurseries, Outdoor Growing Crops, Greenhouses, Trees / Shrubs / Flowers and Foliage Plants.

### TO KILL THE FOLLOWING INSECTS:

12-spotted Cucumber Beetles	Boxelder Bugs
Angoumois Grain Moths	Branch and Twig Borers
Ants (excluding fire and Pharaoh ants)	Cabbage Loopers
Aphids	Cabbage Maggots
Apple Maggots	Cadelles
Armored Scales	Cankerworms
Armyworms	Carrot Weevils
Artichoke Plume Moths	Caterpillars
Asparagus Beetles	Chalcids
Bagworms	Cheese Skippers
Bean Beetles	Cherry Fruit Flies
Beet Armyworms	Cigarette Beetles
Beetles	Clover Mites
Bermudagrass Mirids	Clover Weevils
Billbugs	Cockroaches
Blister Beetles	Codling Moths
Blow Flies	Colorado Potato Beetles
Boll Weevils	Confused Flour Beetles
	Corn Earworms
	Crane Flies

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**TO KILL THE FOLLOWING INSECTS:** (continued)

Crickets	Mexican Bean Beetles
Cross-striped Cabbageworms	Millipedes
Cucumber Beetles	Mole crickets
Dark Mealworms	Moths
Darkling Beetles (lesser mealworms)	Mushroom Flies
Diamondback Larvae and Moths	Navel Orangeworms
Driedfruit Beetles	Olive Fruit Flies
Drugstore Beetles	Onion Maggots
Earwigs	Orange Tortrix
Eastern Tent Caterpillars	Pacific flatheaded borers
Elm Leaf Beetles	Pear Psyllids
Eriophyid Mites	Pepper Weevils
European Pine Tip Moths	Pink bollworms
Fireworms	Potato Leafhoppers
Flea Beetles	Potato Tuberworms
Fleas	Poultry Lice
Forest Tent Caterpillars	Proba bugs
Fruit Flies	Psyllids
Fruittree Leafrollers	Red Flour Beetles
Fruitworms	Rice Weevils
Fungus Gnats	Saltmarsh caterpillars
Garden Symphylan	Sawtoothed Grain Beetles
Glassy-winged Sharpshooters	Scales
Gnats	Sharpshooters
Grain Mites	Shore flies
Grapeleaf Skeletonizers	Shothole borers
Grape Leafhoppers	Silverfish
Grape Mealybugs	Skippers
Grasshoppers	Small Flying Moths
Greenbugs	Soft Scales
Green Fruitworms	Southern chinch bugs
Green Peach Aphids	Sow bugs
Greenhouse Thrips	Spider Beetles
Gypsy Moths (adults & larvae)	Springtails
Harlequin Bugs	Squash bugs
<i>Heliothis</i> spp.	Stable Flies
Hornworms	Stink Bugs
House Flies	Tarnished Plant Bugs
Imported Cabbageworms	Thrips
Indian Meal Moths	Tobacco Moths
Japanese Beetles	Tomato budworms
Katydids	Tomato bugs
Lace Bugs	Tomato Fruitworms
Leaffooted plant bugs	Tomato Hornworms
Leafhoppers	Tomato pinworms
Leafminers	Tomato Russet Mites
Leafrollers	Tussock moths
Leaftiers	Vine mealybugs
Loopers	Vinegar Flies
Lygus	Webworms
Maggots	Weevils
Mealybugs	Western Yellowstriped armyworms
Mediterranean Flour Moths	Whiteflies
	Yellow Mealworms

**USE RESTRICTIONS:**

- Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.
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- Do not apply as a space spray in residential areas.
- Not for use in outdoor metered release devices.
- Keep unprotected persons out of treated areas until sprays have dried.
- Allow spray to dry before allowing adults, children or pets on treated areas.
- Do not wet plants to the point of runoff or drip.
- Do not apply more than 10 times per season.
- Do not reapply within 3 days except under extreme pest pressure.
- In case of extreme pest pressure, do not reapply within 24 hours.
- For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.
- Not for use in outdoor automatic residential misting systems.
- Do not contaminate food or feedstuffs.
- Do not apply when food, feed, and/or water is present.
- Do not use product directly on domestic (companion) animals (dogs, cats, puppies or kittens).
- Do not make applications during rain.
- Do not use in aircraft cabins.
- Do not enter or allow others to enter until sprays have dried.
- Do not enter or allow to enter until vapors, and mists, and/or aerosols have dispersed, and the treated area has been thoroughly ventilated.
- Do not remain in treated area. Exit area immediately and remain outside the treated area until aerosols, vapors, and/or mists have dispersed.
- When used indoors as a crack and crevice, surface, or space spray applications. Remove or cover exposed food and drinking water before application. Remove or cover dishes, utensils, food processing equipment and food preparation surfaces or wash them before use.
- When used in indoor food handling/processing facilities. Do not make space spray applications when the facility is in operation. Prior to space spray applications, cover or remove exposed food. Prior to space spray applications, cover food processing surfaces or clean after treatment and before use.
- When used in dairy barns or facilities: Close milk bulk tank lids to prevent contamination from spray and from dead or falling insects. Remove or cover milking utensils before application. Wash teats of animals before milking.

**Spray Drift Management for Agricultural Crops**

Avoiding spray drift at the application site is the responsibility of the applicator and the grower. The interactions of many equipment and weather-related

factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

Do not apply at wind speeds greater than 10 mph at the application site.

Do not make any type of application into temperature inversions.

Apply as a medium or coarser spray (ASABE standard 572).

Do not apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios. Except as a spot or crack and crevice treatment.

During application do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. All outdoor applications, if permitted elsewhere on the label, must be limited to spot or crack and crevice treatments only, except for the following permitted uses, if allowed elsewhere on this label:

- Applications to soil or vegetation, as listed on this label, around structures;
- Applications to lawn, turf, and other vegetation, as listed on this label;
- Applications to the side of a building, up to a maximum height of 3 feet above grade;
- Applications to the underside of eaves, soffits, doors, or windows permanently protected from rainfall by a covering, or overhang, awning or other structure;
- Applications around potential pest entry points into buildings, when limited to a surface band not to exceed one inch in width;
- Applications to vertical or horizontal surfaces when surrounded by or directly above soil, lawn, turf, mulch, vegetation, or other porous surface, where runoff to surface water is unlikely to occur.

#### **Additional Requirements for Aerial Applications:**

Do not release spray at a height greater than 10 feet above the ground or crop canopy.

The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Aerial applicators must consider flight speed and nozzle orientation in determining droplet size.

When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

#### **Additional requirements for ground applications:**

Do not release spray at a height greater than 4 feet above the ground or crop canopy.

#### **Additional requirements for airblast applications:**

Direct sprays into the canopy.

Turn off outward pointing nozzles at row ends and when spraying outer rows.

## **PESTICIDE RESISTANCE MANAGEMENT**

Tersus<sup>®</sup> Insecticide contains a Group 3A insecticide. Insect biotypes with acquired resistance to Group 3A may eventually dominate the insect population if Group 3A insecticides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by Tersus Insecticide or other Group 3A insecticides.

To delay insecticide resistance consider:

- Avoiding the consecutive use of Tersus Insecticide or other Group 3A insecticides that have a similar target site of action, on the same insect species.
- Using tank mixtures or premixes with insecticides from a different target site of action Group as long as the involved products are all registered for the same use and have different sites of action.
- Basing insecticide use on a comprehensive IPM program.
- Monitoring treated insect population for loss of field efficacy.
- Contacting your local extension specialist, certified crop advisors, and/or manufacturer for insecticide resistance management and/or IPM recommendations for the specific site and resistance pest problems.

### **USE DIRECTIONS:**

**IMPORTANT:** It is recommended that the final spray mix be buffered to a pH of 5.5-7.0. Outside of this range pyrethrins can degrade and the product will lose effectiveness.

To avoid possible harm to honey bees and other beneficial insects, it is advisable to apply when the non-target insects are least active.

Pyrethrins degrade rapidly in sunlight. To ensure the best performance, coverage is key. Use spray equipment that will provide the best coverage and direct contact with as many insects as possible.

Kills only at time of application. Listed insect pests must be directly contacted to be effective.

**TANK MIX:** This product may be tank mixed with other insecticides, acaricides, fungicides, adjuvants, and wetting agents. This application must conform to accepted use precautions and directions for both products. Tank mix applications must be made in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

Prior to tank mixing, a compatibility test should be conducted using the proper proportions of products and water to ensure the physical compatibility of the mixture.

**FOOD AREA USE:** Do not contaminate food or feed-stuffs. Do not apply directly to food. In the home cover all food processing surfaces, cover dishes and utensils during treatment or thoroughly wash before use.



**SPACE SPRAY IN FOOD AND NON-FOOD AREAS OF LISTED INDOOR AREAS:**

**Do not use as a space spray in residential areas.**

For use in mechanical fogging or spraying equipment to kill accessible stages of listed FLYING AND CRAWLING INSECTS. Close room and shut off all air conditioners or ventilating equipment. Dilute at the rate of 1 part concentrate into 1-8 parts water (see table below) and mix well. Apply at the rate of 1 fl. oz. of diluted solution per 1,000 cu. ft. of space, filling the room with mist. Direct the space treatment upward and whenever practical, keep doors and windows closed for at least 30 minutes after application. Vacate treated area and thoroughly ventilate before re-entry.

This concentrate may also be diluted with oil. Any oil should also meet Federal Food Additive Regulation requirements as defined by CFR Title 21. Conduct a small jar compatibility test by mixing a small amount of oil and concentrate and observe the physical compatibility of the mixture. Dilute at the rate of 1 part of concentrate with up to 8 parts oil. Apply at the rate of 1 fl. oz. of diluted solution per 1,000 cu. ft. of space. **Not for use on food. Do not contaminate food or feed stuffs.**

When this product is applied as a space spray in food processing or food handling establishments, applications should be confined to time periods when the plant is not in operation.

**Dilution Table for ULV Foggers**

Dilution Ratio:					
Concentrate	Water	Ratio of Concentrate to solution by volume	Ratio of water to solution by volume	Pounds of Pyrethrum per 1,000 cu. ft. when applied at 1 fl. oz. per 1,000 cu. ft.	Percent Pyrethrins in Solution
Undiluted		1.00	0.00	0.0032	5.00%
1	1	0.50	0.50	0.0016	2.47%
1	2	0.33	0.67	0.0011	1.65%
1	3	0.25	0.75	0.00101	1.23%
1	4	0.20	0.80	0.00064	0.99%
1	8	0.11	0.89	0.00035	0.547%

**FOR USE ON SWEET POTATOES IN STORAGE:** To kill Fruit Flies and Vinegar Flies, dilute this concentrate at 1 part to 14 parts water (9 fl. oz. with one gallon of water). Apply as a space fog with a mechanical fogger capable of producing particles of aerosol size at the rate of 1 gallon diluted spray per 100,000 cu. ft. of space. Apply only when flying insects are present. Several applications may be necessary during periods of heavy infestation, but do not make more than 10 applications.

**FOR USE ON STORED PRODUCTS:** The product can be used to kill accessible stages of listed insects on the following stored commodities: Almond Nutmeat and Shells, Barley, Beans, Birdseed, Buckwheat, Cocoa Beans, Corn, Cottonseed, Dried Apricots, Dried Fruit, Dried Prunes, Figs, Flax, Grain Nuts, Oats, Peanut, Pistachio, Raisins, Rice, Rye, Sorghum, Tobacco, Wheat, and Walnut Nutmeat and Shells held in storage.

**DRIED FRUIT PRODUCTS IN STORAGE OR BEING PROCESSED:** To kill the following stored product pests: Driedfruit Beetles and Sawtoothed Grain Beetles. Remove and destroy infested products. Dilute concentrate at the rate of 1 part concentrate to 8 parts water and mix well. Disperse the solution as a fine mist in the air above the trays and shelves. If the solution is applied as a space spray, use one

ounce diluted spray per 1,000 cu. ft. of space. Immediately following application, leave the room closed off for 1 hour. Thoroughly ventilate the treated area before re-entry. Do not apply more than 1 time per day. Sweep up and destroy fallen insects.

**ON ALMONDS, PEANUTS, PISTACHIOS AND WALNUTS IN BULK OR IN BAGS:** To kill the following stored product insects: Almond Moths, Angoumois Grain Moths, Ants (excluding fire and Pharaoh ants), Cadelles, Cigarette Beetles, Confused Flour Beetles, Drugstore Beetles, Flat Grain Beetles, Granary Weevils, Indian Meal Moths, Lesser Grain Borers, Maize Weevils, Mediterranean Flour Moths, Merchant Grain Beetles, Red Flour Beetles, Rice Weevils, Rusty Grain Beetles, Sawtoothed Grain Beetles and Squarenecked Grain Beetles, dilute 0.815 fl. oz. of Tersus Insecticide per gallon of water and apply as a coarse wet spray over the top of stored nuts or the outside surface of stacked bagged nuts at the rate of 4 gallons per 1,000 sq. ft. Apply at weekly intervals for about 6 weeks and then at 15-day intervals. The first two applications should be applied at the rate of 4 gallons per 1,000 sq. ft., and subsequent treatments should be applied at the rate of 2 gallons per 1,000 sq. ft.

**TREATMENT OF STORED GRAIN AND SEED AREAS:** For best results to kill stored product pests in grain

and seed storage areas and stored grain and seed, treat the area when it is empty of product, as a protectant applied as commodity is put into storage.

**FOR USE IN STORAGE SITES:** This concentrate can be used to treat grain and seed in warehouse bins and trucks, cargo ships, mills, bin hoppers, elevators and conveying equipment as a cleanup prior to using them for storage. In mills and elevators, all grain-infested accumulations should be removed from the bin hoppers. All storage areas and conveying equipment should be thoroughly cleaned by sweeping out the waste grain, cobwebs and other debris from the walls and rafters as well as on the floor and door frames with special attention to material lodged in the cracks and crevices. All debris should be removed and burned to kill eggs and insects that might be present.

For farms, particular attention should be given to cleaning up around the used feed and grain bags, grain residues from wagons, harvesting equipment and feed troughs. Newly harvested grain should not be placed in the same bin with carry-over grain, and all carry-over grain stocks that are not treated with grain protectant should be fumigated. These cleaning operations should be done within two or three weeks before harvest.

After above sanitation measures have been employed, spray all areas prior to use for storage with 1 part to 22 parts water (6 fl. oz. with one gallon of water) up to 1 part to 8 parts (1 pint with one gallon of water). Apply at the rate of one gallon per 1,000 sq. ft. on walls, floors, ceilings and partition boards of bins, paying particular attention to forcing the spray into all cracks and crevices.

**FOR USE AS A GRAIN PROTECTANT:** This concentrate when diluted with water and sprayed directly on grains will effectively protect the grain against grain storage insects for a full season or approximately 8 months. Dilute at the rate of 1 part to 6 parts water (21.3 fl. oz. with one gallon of water). Thoroughly mix the emulsion and apply at the rate of 1 gallon per 1,000 bushels of grain as it is carried along a belt or as it enters the auger or elevator. This concentrate may be used in combination with a registered fumigant for use on heavily infested stored products.

Monthly inspections should be made. If the top 2 or 3 inches are infested, re-treat applying at the rate of 1/2 gallon of diluted material per 1,000 bushels of stored product. Do not reapply for 30 days.

**SURFACE TREATMENT OF STORED GRAIN AND SEED:** To kill Indian Meal Moths, Angoumois Grain Moths and Mediterranean Flour Moths, monthly inspections should be made after the grain is placed in storage. If the top two or three inches are infested, dilute 1 part Tersus Insecticide with 14 parts of water and apply at the rate of 2 gallons per 1,000 sq. ft. of grain. Rake the mixture into the grain to a depth of 4 inches. Do not reapply for 30 days.

**IMPORTANT NOTE:** Plant safety is an important consideration when using insecticides in a greenhouse. However, it is not possible to evaluate the phytotoxicity of Tersus Insecticide on numerous plant varieties that may react differently to insecticides in different growth stages or under varying environmental conditions. Before making widespread applications of Tersus Insecticide or tank mix combinations, treat a limited number of plants and observe for phytotoxicity over a 10-day period.

**DIRECTIONS FOR APPLICATION THROUGH IRRIGATION SYSTEMS (CHEMIGATION):**

Apply this product only through sprinkler (including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move) irrigation systems. Do not apply this product through any other type of irrigation system.

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

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

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

A person knowledgeable of the chemigation system and responsible for the operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

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 shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the pump motor stops. The irrigation line or water pump must include a functional pressure valve, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must be 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.

Constant agitation must be maintained in the chemical supply tank during the entire period of insecticide application. Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of more dilute suspension per unit of time.

#### **SOIL DRENCH DIRECTIONS FOR USE IN GREENHOUSES:**

For a standard drench rate add 0.375 fl. oz. of Tersus Insecticide to 5 gallons of water and apply as a soil drench to 1,000 sq. ft. of soil or non-soil media to kill soil-borne insect larvae (e.g. Fungus Gnats). Apply for sufficient duration so as to distribute the application rate evenly to the entire treated area. Do not exceed the maximum application rate of 0.375 fl. oz. of Tersus Insecticide per 1,000 sq. ft. To drench the soil, additional water may be applied to the area, being careful not to apply to runoff.

#### **GROWING CROPS (OUTDOORS AND IN GREENHOUSES AND NURSERIES):**

Apply 4.5 to 16.35 fl. oz. per acre by ground equipment in sufficient water for thorough coverage. Mix only enough for immediate use. Spraying should begin when insects first appear. Do not wait until plants are heavily infested. Repeat as needed but not more than once daily.

Maximum application rates:

Field and Orchard - 0.05 lbs. a.i./acre or 16.35 fl. oz. of Tersus Insecticide per acre (0.0011 lb. a.i./1,000 sq. ft. or 0.0375 fl. oz. of Tersus Insecticide per 1,000 sq. ft.)

Greenhouse space sprays - 0.00014 lbs. a.i./1,000 cu ft. or 0.0458 fl. oz. of Tersus Insecticide per 1,000 cu. ft.

Do not apply more than 10 times per season.

**ROOT AND TUBER VEGETABLES:** Arracacha, Arrowroot, Purple Arrowroot, Japanese Artichoke, Jerusalem Artichoke, Garden Beets, Sugar Beets, Edible Burdock, Edible Canna, Carrots, Cassava (bitter or sweet), Celeriac (celery root), Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen, Ginger, Ginseng, Horseradish, Leren, Parsley (turnip-rooted), Parsnip, Potato, Radish, Japanese Radish (Daikon), Rutabaga, Salsify, Black Salsify, Spanish Salsify, Sweet Potato, Tanier, Turmeric, Turnip, Yam (true), Yam Bean.

**LEAVES OF ROOT AND TUBER VEGETABLES:** Garden Beet, Sugar Beet, Edible Burdock, Carrot, Cassava (bitter or sweet), Celeriac (celery root), Chervil (turnip-rooted), Chicory, Dasheen (Taro), Parsnip, Radish, Japanese Radish (Daikon), Rutabaga, Black Salsify, Sweet Potato, Tanier, Turnip, Yam (true).

**BULB VEGETABLES:** Garlic, Great-headed Garlic, Leek, Onion (bulb and green) Welsh, Shallot.

**LEAFY VEGETABLES:** Amaranth (Leafy Amaranth, Chinese Spinach, Tampala), Arugula, Cardoon, Celery, Chinese Celery, Celtuce, Chervil, Corn Salad, Chrysanthemum (edible-leaved), Chrysanthemum (garland),

Cress (garden, water), Upland Cress (yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Fennel (Florence), Lettuce (head and leafy), Orach, Parsley, Purslane (garden & winter), Radicchio, Rhubarb, Spinach, Fine Spinach (Malabar, Ceylon), Spinach (New Zealand), Swiss Chard.

**BRASSICA (COLE) LEAFY VEGETABLES:** Broccoli, Chinese Broccoli (Gai Lan), Broccoli Raab (Rapini), Brussels Sprouts, Cabbage, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavallo broccoli, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens.

**LEGUME VEGETABLES (SUCCULENT OR DRIED):** Adzuki Beans, Field Beans, Kidney Beans, Lima Beans, Moth Beans, Mung Beans, Navy Beans, Pinto Beans, Rice Beans, Runner Beans, Snap Beans, Tepary Beans, Urd Beans, Wax Beans, Asparagus Beans, Blackeyed Peas, Catjang, Chinese Long Beans, Cowpeas, Crowder Peas, Southern Peas, Yardlong Beans, Broad Beans (Fava Beans), Chick Peas (Garbanzo Beans), Guar, Jack Beans (Sword Bean), Lablab Beans (Hyacinth Bean), Lentils, Peas (Garden Peas, Field Peas, Sugar Snap Peas, English Peas, Snow Peas), Pigeon Peas, Soybeans, Sweet Lupin Beans, White Lupin Beans, White Sweet Lupin, Sword Beans.

**FOLIAGE OF LEGUME VEGETABLES:** Plant part of any legume vegetable included in the legume vegetable group that will be used as animal feed including any variety of Beans, Field Peas, Soybeans.

**FRUITING VEGETABLES:** Eggplant, Ground Cherry, Okra, Pepinos, Peppers (Bell Peppers, Chili Peppers, Cooking Peppers, Pimentos, Sweet Peppers), Tomatillos, Tomatoes.

**CUCURBIT VEGETABLES:** Balsam Apple, Balsam Pear (Bitter Melon), Chayote (fruit), Chinese Wax Gourd (Chinese preserving melon), Chinese Cucumber, Citron Melon, Cucumber, Gherkin, Edible Gourds, Melons (including hybrids, Cantaloupe, Casaba, Golden Pershaw Melon, Crenshaw, Honeydew Melons, Honey Balls, Mango Melon, Muskmelon, Persian Melon, Pineapple Melon, Santa Claus Melon, Snake Melon), Pumpkin, Squash (summer & winter), Watermelon (including hybrids).

**CITRUS FRUITS:** Calamondin, Citrus Citron, Citrus Hybrids, Grapefruit, Kumquats, Lemons, Limes, Mandarin (Tangerine), Orange (sweet & sour), Pummelo, Satsuma Mandarin (Citrus spp. includes Chironja, Tangelos, Tangors).

**POME FRUITS:** Apple, Crab Apple, Loquat, Mayhaw, Pear, Oriental Pear, Quince.

**STONE FRUITS:** Apricot, Cherry (sweet & sour), Nectarine, Peach, Plum, Prune, Chickasaw Plum, Damson Plum, Japanese Plum, Plumcot.

**SMALL FRUITS AND BERRIES:** Blackberry, Blueberry, Cranberry, Currant, Dewberry, Elderberry, Gooseberry, Grape, Huckleberry, Loganberry, Olallieberry, Raspberry (black & red), Strawberry, Youngberry.



**TREE NUTS:** Almond, Beech Nut, Brazil Nut, Butter-nut, Cashew, Chestnut, Chinquapin, Filbert (hazel-nut), Hickory nut, Macadamia Nut (Bush Nut), Pecan, Pistachio, Walnut, Black and English (Persian).

**ORIENTAL VEGETABLES:** Acerola, Atemoya, Balsam pear (bitter melon), Carambola, Japanese Artichoke, Chinese Broccoli (Gai Lan), Chinese Cabbage (Bok Choy, Napa), Chinese Mustard Cabbage (Gai Choy), Dasheen, Ginger, Ginseng, Chinese Long-beans, Mung Beans, Citron Melon, Japanese Radish (Daikon), Chinese Spinach, Chinese Waxgourd, Cilantro, Citron Melon, Rambutan, Water Chestnut.

**SUBTROPICAL FRUITS:** Avocado, Banana, Carob, Barbados Cherry, Cherimoya, Dates, Durian (Jackfruit), Feijoa, Figs, Guava, Kiwifruit, Lychee, Mango, Papaya, Passion Fruit, Persimmon, Pineapple, Pomegranate.

**CEREAL GRAINS:** Barley, Buckwheat, Corn (sweet and field), Millet, Proso, Oats, Pearl Millet, Popcorn, Rice, Rye, Sorghum (Milo), Teosinte, Triticale, Wheat, Wild Rice.

**FORAGE, FODDER AND STRAW OF CEREAL GRAINS:** Barley, Buckwheat, Corn (sweet and field), Millet, Proso, Oats, Pearl, Popcorn, Rice, Rye, Sorghum (milo), Teosinte, Triticale, Wheat, Wild rice.

**GRASSES FOR SEED, FORAGE, FODDER AND HAY:** Any grass, Gramineal family (green or cured) except sugarcane and those listed in the cereal grains group, Pasture and Range Grasses, Grasses grown for hay and silage, Bermudagrass, Bluegrass, Bromegrass, Fescue, Oat hay, Orchard Grass, Forage Sorghum, Sudan Grass, Timothy.

**NON-GRASS ANIMAL FEEDS:** Alfalfa, Velvet Bean, Clover, Kudzu, Lespedeza, Lupine, Sainfoin, Trefoil, Crown Vetch, Milk Vetch.

**HERBS AND SPICES:** Allspice, Angelica, Anise (anise seed), Star Anise, Annatto (seed), Balm (lemon balm), Basil, Borage, Burnet, Caper buds, Caraway, Black Caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chamomile, Chervil (dried), Chicory, Chive, Chinese Chive, Cinnamon, Clary, Clove buds, Coriander (cilantro or Chinese parsley leaf), Coriander (cilantro seed), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dill weed), Dill (seed), Fennel (common), Florence Fennel (seed), Fenugreek, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf), Lovage (seed), Mace, Marjoram, Marjoram (includes sweet or annual marjoram, wild marjoram or oregano, and pot marjoram), Mustard (seed), Nasturtium, Nutmeg, Oregano, Mint, Paprika, Parsley (dried), Pennyroyal, Black Pepper, White Pepper, Poppy (seed), Rosemary, Rue, Saffron, Sage, Summer and Winter Savory, Sweet bay (bay leaf), Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood.

**ADDITIONAL CROPS:** Artichoke, Asparagus, Avocado, Coffee, Cotton, Hops, Jojoba, Mushroom, Okra,

Olives, Peanuts, Pineapple, Rice, Safflowers, Sesame, Sugar Cane, Sunflower, Tea.

**TO KILL ANTS (EXCLUDING FIRE AND PHARAOH ANTS) ON ORCHARD FLOORS AND VINEYARD FLOORS:** Apply as a broadcast spray to the entire orchard or vineyard floor using ground spray equipment at 5 to 17 fl. oz. per acre in 25 or more gallons of water. For best results use the high rate for heavy infestations and the lower rate for light infestations.

Do not apply where weed growth or other obstructions would impede uniform coverage of the orchard or vineyard floor. Mow or chemically control weeds before the application. Foliar applications of Tersus Insecticide may be made in addition to the orchard floor treatment.

**USE ON GREENHOUSE FRUIT, VEGETABLE, FLOWER AND FOLIAGE PLANTS:** Combine 13.07 fl. oz. of concentrate with 100 gallons of water for applications with conventional sprayers or 0.1312 fl. oz. of concentrate per gallon of water for applications with handheld or backpack sprayers. Apply the diluted product at the rate of 3 gallons/1,000 sq. ft.

Do not exceed maximum application rate of .0012 lbs. a.i./1,000 sq. ft. or 0.39 fl. oz. of Tersus Insecticide/ 1,000 sq. ft.

Do not apply more than 1 time per day.

**FOR USE IN VEGETABLE AND TRUCK GARDENS:** For commercial production of listed crops to kill listed insects dilute 0.25 to 0.373 fl. oz. of Tersus Insecticide per gallon of water. Apply diluted solution at the rate of 1 gallon / 1,000 sq. ft. with all types of agricultural sprayers, including compressed air sprayers or pump driven sprayers.

**USE WITH HYDROPONICALLY GROWN VEGETABLES AS A WATER SYSTEM TREATMENT:** To kill aquatic diptera larvae, apply Tersus Insecticide to the water at the rates outlined in the following table:

Pyrethrins Concentration	Fl. oz. of Tersus Insecticide	Gallons of Water
0.1 ppm	2.70 fl. oz.	10,000
0.01 ppm	0.27 fl. oz.	10,000
0.001 ppm	0.027 fl. oz.	10,000

**FOR USE ON HARVESTED FRUITS AND VEGETABLES:** Including Apples, Blackberries, Blueberries, Boysenberries, Cherries, Crab apples, Currants, Dewberries, Figs, Gooseberries, Grapes, Guavas, Loganberries, Mangoes, Muskmelons, Oranges, Peaches, Pears, Peas, Pineapples, Plums, Raspberries, Tomatoes.

**DIRECT SPRAY TO FRUITS IN BASKETS, ON TRUCKS OR IN PROCESSING PLANTS:** To kill Drosophila spp., Tephritid spp. Fruit Flies, Vinegar Flies and other nuisance pests dilute this concentrate at the rate of 1 part with 900 parts water (1 pint per 125 gallons or



1 teaspoon per 10 pints water). Thoroughly mix the emulsion in the spray tank and treat as follows:

- 1) Apply liberally to fruits and vegetables in baskets, on trucks and in plants. Use sprayers at a high pressure for applying at the rate of five or six pints of diluted spray to a 2-ton load of produce. Direct the spray for maximum coverage of the baskets or hampers. It is important to spray between and beneath the containers.
- 2) Spray the raw stock stacked in the yard.
- 3) Dip baskets in the diluted spray, after dumping the produce to kill adhering larvae and pupae.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Keep this product in its tightly closed original container, when not in use. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING:** Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 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. Offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

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**MGK**

8810 Tenth Avenue North  
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P.O. Box 8025

Walnut Creek CA 94596-8025

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