

25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

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 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located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.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 water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

**SPRINKLER CHEMIGATION (FOLIAR SPRAY USES)**

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located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.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 water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

**FLOOD (BASIN), FURROW AND BORDER CHEMIGATION (SOIL DRENCH USES)**

Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity, such as a drop structure of weir box, to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

- a. 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.
- b. The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
- c. 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.
- d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- e. 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.
- f. 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.

**DRIP (TRICKLE) CHEMIGATION (SOIL DRENCH USES)**

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 water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

### GENERAL INFORMATION

This product is intended for use by the commercial grower or commercial applicator in conventional acre. Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom. Do not apply within 28 days of harvest. Do not feed treated forage or graze livestock on treated orchards. hydraulic sprayers, concentrate application equipment, ground applicators or airplane sprayers. When applying by ground equipment, use the recommended amount in sufficient water for thorough coverage: by aircraft, in 1 to 10 gallons of water unless otherwise specified. The rates of DIMETHOATE 4 EC are recommended on a per 100 gallons of dilute spray, except where indicated. Application rates applied by concentrate methods should equal the total amount of dimethoate applied per acre on the per 100 gallon basis except where the actual concentrate rates are specified. (If a dilute application is recommended at 1 pint per 100 gallons and it requires 400 gallons per acre for proper coverage, the concentrate rate would equal 4 pints per acre). The optimum spray gallonage is dependent on tree size, density and growth stage. Typical spray gallonages per acre range from, but are not limited to 100-600 gallons for dilute spray, 20-100 gallons for concentrate and 1-25 gallons for aerial. Do not apply when weather conditions favor drift of spray from areas treated. Repeat applications as necessary unless otherwise specified. Consult your state experiment station or state extension service for proper timing of applications.

DIMETHOATE 4 EC is compatible in spray tank mixes with most insecticides, miticides, and fungicides, provided they are not alkaline in reaction. DIMETHOATE 4 EC has systemic and contact activity against a broad spectrum of piercing, sucking and chewing insects.

For proper mixing, spray tank should be at least 3/4 filled with water before adding DIMETHOATE 4 EC Mechanical agitation or recirculation through pump bypass to tank is usually sufficient for maintaining a good dispersion. Spray tank mixtures of DIMETHOATE 4 EC with fertilizers that are alkaline should be applied immediately.

All spray mixes should be made in accordance with the product that has the more restrictive label limitations and precautions.

Dimethoate may produce a distinctive odor during the spray operation, but under normal conditions this odor does not persist.

### FRUIT

**APPLES:** Apple Maggot\*, Codling Moth\*\* - 1 pt. per 100 gallons of water. Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom. Apply at petal-fall and every 10 to 14 days thereafter until control is achieved.

Do not apply within 28 days of harvest. Do not feed treated forage or graze livestock on treated orchards.

\* Under heavy infestations, some sting injury may occur.

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\*\* Midwest and eastern states only.

**APPLES PEARS: Aphids, Leafhoppers, Mites (except Rust Mites), Pear Psylla** - 1/2 to 1 pt. per 100 gallons water. Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom. Do not apply within 28 days of harvest. Do not feed treated forage or graze livestock on treated orchards.

**GRAPEFRUIT, LEMONS, ORANGES TANGERINES: Aphids** - Ground Equipment: 1/2 to 1 pt. per 100 gallons of water. Apply as an outside coverage spray. Aircraft Equipment: 1 to 2 qts. per acre in 5 to 10 gallons water. Do not apply within 15 days of harvest. **Mites (except Rust Mites)** - Ground Equipment: 1/2 to 1 pt. per 100 gallons of water. Apply as a thorough distribution coverage spray. Do not apply within 15 days of harvest. **Scales (except Black or Snow)** - Ground Equipment: 1 to 1-1/2 pts. per 100 gallons of water. Apply as a thorough coverage spray. Do not apply within 45 days of harvest. **Thrips** - Ground Equipment: 1/2 to 1 pt. per 100 gallons of water. Apply as a mist spray. Aircraft Equipment: 1 to 2 qts. per acre in 5 to 10 gallons water. Do not apply within 15 days of harvest. **Whiteflies** - Ground Equipment: 1 pt. per 100 gallons of water. Apply as a thorough distribution coverage spray. Do not apply within 15 days of harvest.

Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom. Do not use on citrus seedlings. Make no more than 2 applications to mature fruit. Do not enter treated groves within 4 days of last application. Do not graze livestock or cover crops in treated orchards.

**GRAPES (CALIF. RAISIN, WINE, TABLE AND CANNING GRAPES): Grape Leafhopper, Pacific Spider Mite** - 1/2 to 1 pt. per 100 gallons water not to exceed 400 gallons per acre. Apply lower or higher rate depending upon vine growth density. Repeat as necessary. Do not apply within 28 days of harvest. Do not enter treated fields within 4 days of last application.

#### NUTS

**PECANS: Aphids, Mites, Leafhoppers** - Ground Equipment: 2/3 pt. per acre. **Aphids** - Aerial Equipment: 2/3 pt. per acre in a minimum of 5 gallons of finished spray. Do not graze livestock in treated groves. Do not apply within 21 days of harvest.

#### VEGETABLE CROPS

**BEANS (GREEN, LIMA, SNAP, DRY): Aphids, Bean Leaf Beetle, Grasshoppers, Leafhoppers, Leaf Miners, Lygus Bugs, Mexican Bean Beetle, Mites** - 1/2 to 1 pt. per acre. Beans may be harvested on day of application. Do not feed treated vines. This pesticide is highly toxic to bees, do not apply if bees are visiting the areas to be treated when crop or weeds are in bloom.

**BROCCOLI, CAULIFLOWER: Aphids** - 1/2 to 1 pt. per acre. Do not apply within 7 days of harvest.

**CABBAGE: Aphids** - 1/2 to 1 pt. per acre. Do not apply within 7 days of harvest.

**HEAD LETTUCE: Aphids, Leafhoppers, Leaf Miners** - 1/2 pt. per acre. Do not apply within 7 days of harvest.

**CELERY (FLORIDA): Leaf Miners, Carmine Mite, Two-spotted Spider Mite** - Ground Equipment: 1 pt. per acre. Do not apply within 7 days of harvest.

**LUPINE: Aphids, Lygus Bugs** - 1/2 to 1 pt. per acre. Apply when Aphids first appear. Make only 2 applications per season. Lupine may be harvested on day of application. Do not feed or graze, forage or hay. This pesticide is highly toxic to bees, do not apply if bees are visiting the areas to be treated when crop or weeds are in bloom.

**LEAF LETTUCE, SPINACH, COLLARDS, KALE, TURNIP (GREENS AND ROOTS), MUSTARD GREENS, SWISS CHARD, ENDIVE (ESCAROLE):** Aphids, Leafhoppers, Leaf Miners - 1/2 pt. per acre. Do not apply within 14 days of harvest.

**LENTILS:** Lygus Bugs - 1 pt. per acre. Aphids - 1/2 to 1 pt. per acre. Do not apply within 14 days of harvest. Do not feed or graze treated plants. Do not make more than two applications per growing season. This pesticide is highly toxic to bees, do not apply if bees are visiting the areas to be treated when crop or weeds are in bloom.

**MELONS (except Watermelons):** Aphids, Leafhoppers, Leaf Miners, Thrips - 1 pt. per acre. Do not apply within 3 days of harvest.

**PEAS:** Aphids - 1/3 pt. per acre. Peas may be harvested on day of application. Do not feed or graze hay within 21 days after last application when a stationary viner is used. Do not feed or graze when a mobile viner is used. This pesticide is highly toxic to bees, do not apply if bees are visiting the areas to be treated when crop or weeds are in bloom. Do not make more than one application per season.

**PEPPERS:** Aphids, Leaf Miners, Maggots - 1/2 to 2/3 pt. per acre. Peppers may be harvested on day of application.

**POTATOES:** Aphids, Grasshoppers, Leaf Miners, Leafhoppers - 1/2 to 1 pt. per acre. Potatoes may be harvested on day of application.

**TOMATOES:** Aphids, Leaf Miners, Leafhoppers - 1/2 to 1 pt. per acre. Do not apply within 7 days of harvest.

Where cabbage worms and cabbage loopers are a problem, the above rates are compatible with endosulfan, malathion or parathion. Use in accordance with the manufacturer's directions for control of these insects.

#### FIELD CROPS

**ALFALFA:** Aphids, Grasshoppers, Leafhoppers, Plant Bugs including Lygus Bugs, Reduction of Alfalfa Weevil Larvae - 1/2 to 1 pt. per acre. This pesticide is highly toxic to bees, do not apply if bees are visiting the areas to be treated when crop or weeds are in bloom. Do not apply within 10 days of harvest or pasturing. Make only one application per cutting. Effective only on cutting to which applied.

**FIELD CORN:** Banks Grass Mites (excluding Trans-Pecos area of Texas), Aphids, Bean Beetle, Corn Rootworm Adult\*, Two-spotted Spider Mite - 2/3 to 1 pt. per acre. Aerial Application: Spray over the foliage when mites appear. Apply above rates in 1 or more gallons of water per acre. Grasshoppers - 1 pt. per acre. Ground Application: Apply above rate in 20 to 40 gallons of water per acre. Aerial Application: Apply above rate in 1 or more gallons of water per acre. Apply as necessary. Make no more than three applications per year. Do not feed or graze within 14 days of last application. Do not apply within 14 days of harvest. Do not apply to corn during the pollen-shed period.

\*NOTE - Corn Rootworm Adult not registered for use in California.

**COTTON (GROWN IN CALIFORNIA AND ARIZONA):** Plant Bugs including Lygus Bugs, Leafhoppers, Black Fleahoppers - 1/2 to 1 pt. per acre. Repeat applications should not be made at intervals closer than 14 days. Make only 2 applications per season at the higher rate. Do not feed treated forage or graze livestock on treated fields. Do not apply within 14 days of harvest.

**COTTON:** Aphids, Mites, Thrips, Fleahoppers - 1/4 to 1/2 pt. per acre. Plant Bugs including Lygus Bugs - 1/2 pt. per acre. Repeat applications should not be made at intervals closer than 14 days. Do not feed treated forage or graze livestock on treated fields. Do not apply within 14 days of harvest.

**SAFFLOWER (GROWN IN CALIFORNIA AND ARIZONA):** Aphids, Leafhoppers, Plant Bugs including Lygus and Thrips - 1/2 to 1 pt. per acre. Repeat applications should not be made at intervals closer than 14 days. Make only 2 applications per season at the higher rate. Do not apply within 14 days of harvest.

**SORGHUM (MILO):** Aphids - 1/2 to 1 pt. per acre. Ground Application: Apply above rates in 25 to 40 gallons of water per acre. Aerial Application: Apply above rates in 1 or more gallons of water per acre. Banks Grass Mites (excluding Trans-Pecos area of Texas), Spider Mites - 1 pt. per acre. Ground Application: Apply above rate in 25 to 40 gallons of water per acre. Aerial Application: Apply above rate in 1 or more gallons of water per acre. Sorghum Midge - 1/4 to 1/2 pt. per acre. Aerial Application: Apply above rates in 1 or more gallons of water per acre. Do not feed or graze within 28 days of last application. Make no more than 3 applications as needed per season. Do not apply after heading.

**SOYBEANS:** Mexican Bean Beetle, Leafhopper, Spider Mites, Bean Leaf Beetle, Three Cornered Alfalfa Hopper\* - 1 pt. per acre. Aerial Application: Apply recommended rate in a minimum of 2 gallons of water per acre. Grasshoppers - 1 pt. per acre. Ground Application: Apply rate in 25 to 40 gallons of water per acre. Aerial Application: Apply rate in 1 or more gallons of water per acre. Do not feed or graze within 5 days of last application. Do not apply within 21 days of harvest.

\*Note - Three Cornered Alfalfa Hopper not registered for use in California.

**WHEAT:** Aphids (Greenbugs) - 1/2 to 3/4 pt. per acre. Brown Wheat Mite - 1/3 to 1/2 pt. per acre. Grasshoppers - 3/4 pt. per acre. Do not apply within 14 days of grazing immature plant. Do not harvest grain within 35 days of last application. Do not make more than 2 applications per season.

**SEED CROPS**

**ALFALFA:** Aphids, Leafhoppers, Lygus Bugs, Grasshoppers, Reduction of Alfalfa Weevil, Larvae - 1/2 to 1 pt. per acre. Do not apply to alfalfa in the bloom period. Do not feed or graze livestock in treated crops, hay, threshings or stubble within 10 days of application.

**ATTENTION; DO NOT USE ON SEED ONIONS, SEED CARROTS, OR SEED BERMUDA GRASS!**

**CITRUS TREES - NONBEARING AND NURSERY STOCK**

Consult your state agricultural experimental station or state agricultural extension service for proper timing of applications.