



Reg # 400-278

PM-14

File
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FEB 23 1994

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Frederick J. Hageman
UNIROYAL CHEMICAL CO. INC.
74 Amity Road
Bethany, CT 06524

Subject: Label Amendment Submission of 01/21/94 in Response to PR Notice 93-7
EPA Reg. No. 400-278
DE-FEND E-267 DIMETHOATE SYSTEMIC INSECTICIDE

IMPORTANT NOTICE: This Letter Requires You to Submit a Notification to the Office of Compliance Monitoring within 20 Days.

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments listed on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

SERIOUS ERROR(S) ON SUBMITTED LABELING:

EPA has determined that one or more of the errors on the labeling you submitted to the Agency is categorized as "serious" as defined in PR Notice 93-11. In general, serious errors are those that may create a potential for harm to workers, handlers, other persons, or the environment; or those that prevent the achievement of the basic goals of the Worker Protection Standard (WPS) or FIFRA.

YOU MUST NOT SELL OR DISTRIBUTE (INCLUDING RELEASE FOR SHIPMENT) ANY PRODUCT BEARING THE SUBMITTED LABELING. Sale or distribution of any product with the incorrect labeling is a violation of FIFRA that could result in initiation of an action for civil penalties and/or cancellation of your product. This matter has been referred to the Office of Compliance Monitoring (OCM) for further action.

YOU MUST SUBMIT A NOTIFICATION TO THE OFFICE OF COMPLIANCE MONITORING WITHIN 20 DAYS OF THE DATE OF THIS LETTER.



Recycled/Recyclable
Printed with SoyCandle ink on paper that
contains at least 50% recycled fiber

Each notification must include the following information:

1. Registrant's name and address.
2. EPA Registration number of the product for which the labeling was submitted.
3. Whether any product already has been sold or distributed (this includes released for shipment) bearing the submitted labeling.

In addition, the notification must include the following information, IF you have already sold or distributed any product bearing the submitted labeling:

1. Quantity of the product that has been sold or distributed.
2. EPA Producing Establishment number.
3. Location of the product, if known.
4. Proposed plan for assuring that product with the incorrect labeling in your control, as well as that in the hands of dealers/distributors/users, will be corrected. The plan must include your proposal for assuring that the labeling is corrected as soon as possible.

Submit the notification to:

Michael Wood, Director
Compliance Division, (7203)
Worker Protection Notification
Office of Compliance Monitoring
U.S. Environmental Protection Agency
401 M Street SW
Washington, DC 20460

Failure to submit a notification also may result in initiation of an action under FIFRA for civil penalties, if you sold or distributed (this includes released for shipment) product bearing the incorrect labeling.

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IN ADDITION, YOU SHOULD CONTACT IMMEDIATELY THE PERSONS TO WHOM YOU SOLD OR DISTRIBUTED YOUR PRODUCT AND INFORM THEM NOT TO SELL OR DISTRIBUTE ANY PRODUCT WITH THE INCORRECT LABELING.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the WPS labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have neither been reviewed nor accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

Submit the required notification. Then by the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- **BEFORE** selling or distributing any product bearing the final printed labeling as amended

AND

- **WITHIN** one year from date of this acceptance.

Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs (7505C)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460-0001

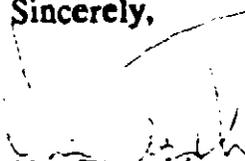
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Hand or courier deliveries of final labeling may be made to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief
Registration Support Branch
Registration Division (7505W)

Attachment

cc: Office of Compliance Monitoring

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division

Frederick J Hageman
UNIROYAL CHEMICAL CO INC
74 AMITY RD
BETHANY CT 06524

Comment for: EPA Reg Nr.400-278
DE-FEND E-267 DIMETHOATE SYSTEMIC INSECTICIDE

The following specific comments pertain to your WPS labeling submission concerning the product cited above:

Only one chemical resistant category code can be listed. Please consult the solvent table on page 16 of the Main Labeling Guidance for the correct selection.

The glove requirement for "applicators and other handlers" in the Personal Protective Equipment" section on your proposed labeling does not match the chemical-resistance category identified on your proposed labeling. Correct the chemical-resistance category statement (if necessary) to state: "Some materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for category F on an EPA chemical resistance category selection chart." Remove the incorrect glove requirement (if any) and add "Chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber or viton". The exact location is shown in Sections A and B on Part I of the Product Worksheet in Supplement Three-A to PR Notice 93-7.

The following statement on your proposed label is not required for this product: "Notify workers of the application by warning them orally and by posting warning

UNIROYAL CHEMICAL CO INC
EPA Reg. Number: 400-278
DE-FEND E-267 DIMETHOATE SYSTEMIC INSECTICIDE
Application date: 08/24/93
Original Submission

signs at entrances to treated areas." Delete it from the Agricultural Use Requirements box.

The eyewear requirement for early entry in the Agricultural Use Requirements Box on your proposed labeling is missing or incorrect. Remove the incorrect requirement (if any) and add "Protective eyewear". The exact location is shown in Sections F and G on Part 2 of the Product Worksheet in Supplement Three-A to PR Notice 93-7.

Delete the Nonagricultural Use Requirements box on your proposed label.

Delete the crossed-out statements on your proposed label. They are redundant statements or phrases.

Correct the typographical errors circled on your proposed label.

DE-FEND[®] E-267

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DIMETHOATE SYSTEMIC INSECTICIDE



ACCEPTED
with COMMENTS
in EPA Letter Dated

FEB 23 1994

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

400-278

COMPOSITION

Active Ingredient:	
Dimethoate (O,O-Dimethyl S-(N-methylcarbamoylmethyl) phosphorodithioate)*	30.5%
Inert Ingredients:**	69.5%
Total:	100.0%

*Contains 2.67 lbs. per gallon.

**Contains xylene-range aromatic solvent

UNIROYAL CHEMICAL COMPANY, INC., Middlebury, CT 06749

005WPS

EPA REG. NO. 400-278

EPA EST. NO.

NET WEIGHT

KEEP OUT OF REACH OF CHILDREN

WARNING BEST AVAILABLE COPY 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.)

DE-FEND E-267 is an organophosphate insecticide.

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

IF SWALLOWED: Call a physician or Poison Control Center. Drink promptly a large quantity of milk, egg white, gelatin solution, or if these are not available, large quantities of water. Avoid alcohol.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration. Get medical attention.

NOTE TO PHYSICIAN: For all exposures, administer atropine and 2-PAM as an antidote for acetylcholinesterase inhibition. Contains petroleum distillates.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS WARNING

May be fatal if swallowed or absorbed through skin. Harmful if inhaled. Causes eye and skin irritation. Do not get in eyes, on skin, or on clothing. Do not breathe vapor or spray mist. Use only with adequate ventilation. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Wear eye protection, protective clothing, and rubber gloves. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT

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

Applicators and Other Handlers (other than mixers and loaders) Must Wear: Coveralls over short-sleeved shirt and short pants; chemical-resistant gloves, such as Nitrile rubber or Butyl rubber or Viton or Barrier laminate; protective eyewear; chemical-resistant footwear plus socks; chemical-resistant headgear for overhead exposure; chemical-resistant apron when cleaning equipment.

Mixers, Loaders, and Flaggers Must Wear: Coveralls over short-sleeved shirt and short pants; chemical-resistant gloves, such as Nitrile or Butyl or Viton or Barrier laminate; chemical-resistant footwear plus socks; protective eyewear; chemical-resistant headgear for overhead exposure; chemical-resistant apron when mixing or loading. For exposures in enclosed areas: A respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G). For exposure outdoors: Dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C). Aerial Application: Automatic Flagging Devices Should Be Used Whenever Feasible. If Human Flaggers Are Employed They Must Wear The Protective Clothing and Respirator Specified on This Label.

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.

When handlers use closed systems, enclosed cabs, or 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.
- Remove clothing 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.

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ENVIRONMENTAL HAZARDS

This pesticide is toxic to wildlife and aquatic invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water by cleaning equipment or disposal of wastes. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Protective information may be obtained from your Cooperative Agricultural Extension Service.

PHYSICAL OR CHEMICAL HAZARDS

DO NOT USE, POUR, SPILL OR STORE NEAR HEAT OR OPEN FLAME. DO NOT STORE BELOW FREEZING TEMPERATURES.

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 responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, 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 48 hours.

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

- coveralls over short-sleeved shirt and short pants
- chemical resistant gloves such as nitrile rubber or butyl rubber or neoprene or viton or barrier laminate
- chemical-resistant footwear plus socks
- chemical-resistant headgear for overhead exposure

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

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 apply this product in a manner as to directly or through drift expose workers or other persons.~~

~~The area being treated must be vacated by unprotected persons.~~

All homeowners, when applying this product must wear a) Impermeable gloves (for example, rubber gloves or plastic covered, reinforced gloves); b) Boots or boot covers; c) Long-sleeved shirt & long pants; d) Wide brimmed hat.

BEFORE USE READ DIRECTIONS, CAUTION AND NOTICE STATEMENTS CAREFULLY

DE-FEND E-267 may be used for control of certain insects on crops including leafminers, lygus bugs, aphids, thrips, leafhoppers, grasshoppers and mites. Forage, fruit, vegetables and staple crops on which DE-FEND E-267 may be used include apples, beans, cole crops (broccoli, cabbage, cauliflower), cotton, lettuce, pears, peas, peppers, potatoes, spinach, tomatoes. See table for insects, crops and conditions under which DE-FEND E-267 may be used. DE-FEND E-267 kills insects by systemic, contact and residual action. Excellent control is obtained of insects on the underside of leaves and stems or rolled into leaves as well as those which are more exposed to the spray.

FOR GENERAL APPLICATION by commercial growers or commercial applicators, on the crops listed, apply recommended amounts in sufficient water for good coverage.

CHEMIGATION: Refer to supplemental labeling entitled "APPLICATION THROUGH IRRIGATION SYSTEMS - CHEMIGATION" for use directions for chemigation. Do not apply this product through any irrigation systems unless the supplemental labeling on chemigation is followed.

FOR AERIAL APPLICATION use the recommended amount of DE-FEND E-267 in 2 to 10 gallons of water. Avoid drift to adjacent crops. Repeat application as necessary unless otherwise specified. Consult agricultural extension or agricultural experiment station specialists regarding recommendations of time of application. Apply when air is calm and the temperature is below 60°F. Do not apply during bloom period or on citrus seedlings. Make no more than 2 applications to mature fruit.

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Redundant

Use separate PPE requirements per 2011 16-1, 16-2, 16-3, 16-4

RINSE AND DRAIN PROCEDURE FOR PESTICIDE CONTAINER

- 1 Empty container into spray tank. Then drain in vertical position for 30 seconds.
- 2 Add measured amount of rinse water (or other diluent) so container is 1/4 to 1/2 diluent. For example, one quart in a one-gallon container.
- 3 Rinse container thoroughly, pour into tank, and drain 30 seconds. Repeat three times. Add enough fluid to bring tank up to level.
- 4 Follow CONTAINER DISPOSAL Directions.

USE DIRECTIONS

HOUSEFLIES

RESIDUAL WALL SPRAYS: For the control of houseflies, including resistant strains, in dairy barns, hog pens, calf barns, poultry houses, and other farm buildings, apply a 1% residual spray to the ceilings, walls and stanchions. Prepare the spray by mixing 3/4 pint of DE-FEND E-267 in 3 gallons of water. Thoroughly wet all fly-resting areas to the point of runoff. One gallon of spray will cover 500 to 1,000 square feet of surface. DE-FEND E-267 controls flies up to 8 weeks or longer.

Repeat applications should be made when necessary. Remove dairy animals, calves under one month of age and poultry from building when applying residual wall sprays.

SPOT SPRAYS: For localized housefly control, apply a spray containing 6 ounces of DE-FEND E-267 in 5 quarts of water with a knapsack or similar type sprayer to areas frequented by flies, such as doorways, and around windows. Repeat applications should be made when necessary. Good sanitation is a necessary part of any effective fly control program.

MAGGOT SPRAYS: For the control of housefly maggots, mix 6 ounces DE-FEND E-267 in 5 quarts of water and apply as a coarse spray or with a sprinkling can to fly-breeding areas, such as poultry droppings in caged-layer houses, garbage dumps and manure piles.

Repeat application as additional manure or garbage is added.

GENERAL OUTSIDE USE: For the control of houseflies around homes and recreation areas, garbage cans, animal quarters, food-processing plants, warehouses, loading docks and refuse areas, thoroughly spray exposed surfaces, such as walls, fences, garbage and refuse containers with 3/4 pint of DE-FEND E-267 in 3 gallons of water.

Repeat applications should be made when necessary.

Do not contaminate feed and foodstuffs, drinking fountains, litter and feed troughs. Do not use in milk-processing rooms, including milk houses and milk storage rooms. Do not use in homes. Do not use in commercial food preparation areas or in edible products areas of food processing plants.

ORNAMENTAL INSECTS

DE-FEND E-267 is generally effective in controlling aphids, thrips, leaf miners, scales, leafhoppers, and mites. For proper timing of treatments for the control of specific pests on ornamental plants, consult local agricultural authorities. Make adequate sprays when pests appear or when damage is first observed. Do not over-dose or over-spray. Do not use on ornamental plants not listed. The uses listed are foliar sprays unless otherwise noted.

Ornamental Plants	Pest Controlled	Amount Per 6 Gal. Water
Azaleas (Outdoor plants)	Lace Bugs Leaf Miners Mites Tea Scale White Flies	1.5 oz.

Ornamental Plants	Pest Controlled	Amount Per 6 Gal. Water
Carnelias	Aphids Carnelia Scale Mites Tea Scale	1.5 oz. Foliar Spray: Apply 2 sprays 6 weeks apart the first year followed by annual applications soon after first growth begins in the spring. Soil Drench: Apply as a soil drench around the base of plants in early spring at the rate of 4 tablespoons per gallon of water per plant up to 6 feet tall. Increase the rate proportionately for larger plants.
Carnations	Aphids Thrips Mites	1.5 oz. Soil Drench: Apply as a soil drench at the rate of 4 fluid ounces per 500 square feet of bed or bench (5 qts. per 1/2 acre) in sufficient water for even distribution. Water in thoroughly after application.
Cyperus	Bactra Moth Larvae	1.5 oz. Apply as a drenching spray.
Dry Lillies	Aphids Thrips	3 oz.
Roses (Outdoor Plants)	Aphids Leafhoppers Mites Thrips	1.5 oz.
Arborvitae	Aphids Bagworms Mites	3 oz.
Birch	Aphids Leaf Miners	1/2 oz. For leaf miners apply when leaves are expanded (about Mid May) and repeat in early July.
Boxwood	Leaf Miners Mealy Bugs Mites	1.5 oz. For leaf miners apply in spring when leaf miner flies first appear or in early summer for control of larvae in the infested leaves.
Cedar	Mites	3 oz.
Euonymus	Aphids Scale	3 oz.
Gardenias	Tea Scale White Flies	1 1/2 oz.
Gerberas	Thrips	1 1/2 oz.
Gladiolus	Aphids Thrips	1 1/2 oz.
Iris	Aphids Iris Borer Thrips	3 oz. For borer control spray when new leaves are 5 - 6 inches tall.
Poinsettias (Outdoor plants)	Mites White Flies Mealy Bugs Aphids	1 1/2 oz.
Ricinus nitida (Outdoor plants)	Thrips	1 1/2 oz. Note: Do not use on potted plants.
Holly (English and American, not Burford variety)	Leaf Miners Mites Sulf Scale	1 1/2 oz. For leaf miners apply in spring when leaf miner flies first appear or in early summer for the control of larvae in infested leaves.
Hemlock	Mites Scale	1 1/2 oz.
Juniper	Aphids Bagworms Midges Mites	3 oz.
Oak	Golden Oak Scale	3 oz.
Pine	Aphids Bagworms European Pine Shoot Moth Nantucket Pine Tip Moth Zimmerman Pine Moth	3 oz.
Roses	Aphids Leafhoppers Mites Thrips	Amount per acre 1 pt. in 5 - 10 gal water by air 1 pt. in 100 gal water ground application
Taxus	Fletcher Scale Mealy Bugs Mites	3 oz.

AGRICULTURAL INSECTS

DE-FEND E-267 may be used for control of certain insects on crops including leafminers, lygus bugs, aphids, thrips, leafhoppers, grasshoppers and mites. Forage, fruit, vegetables and staple crops on which DE-FEND E-267 may be used include apples, beans, cole crops (broccoli, cabbage, cauliflower), cotton, lettuce, pears, peas, peppers, potatoes, spinach, tomatoes. See table for insects, crops and conditions under which DE-FEND E-267 may be used. DE-FEND E-267 kills insects by systemic, contact and residual action. Excellent control is obtained of insects on the underside of leaves and stems or rolled into leaves as well as those which are more exposed to the spray.

FOR GENERAL APPLICATION by commercial growers or commercial applicators, on the crops listed, apply recommended amounts in sufficient water for good coverage.

CHEMIGATION: Refer to "APPLICATION THROUGH IRRIGATION SYSTEMS - CHEMIGATION" for use directions for chemigation. Do not apply this product through any irrigation systems unless the directions for chemigation are followed.

FOR AERIAL APPLICATION use the recommended amount of DE-FEND E-267 in 2 to 10 gallons of water. Avoid drift to adjacent crops. Repeat application as necessary unless otherwise specified. Consult agricultural extension or agricultural experiment station specialists regarding recommendations of time of application. Apply when air is calm and the temperature is below 60°F. Do not apply during bloom period or on citrus seedlings. Make no more than 2 applications to mature fruit.

CROP	PESTS CONTROLLED	RATE	LIMITATIONS
Peppers	Aphids, Leaf miners, Maggots	½ - 1 pint/Acre	Peppers may be harvested on day of application.
Pecans	Aphids	1 pint/Acre	Apply with ground equipment only. Do not graze livestock in treated groves. Allow 21 days between last application and harvest.
Alfalfa	Aphids, Leafhoppers, Lygus bugs, Grasshoppers, Reduction of Alfalfa Weevil larvae	½ - 1½ pints/Acre	Do not feed livestock on treated crops. Brushings or hay treated less than 10 days before harvest or pasture stubble sooner than 10 days after treatment. Effective only on cutting to which applied. Make only one application per year. This pesticide is highly toxic to bees, do not apply if bees are visiting.
Cotton (grown in AZ & CA)	Lygus bugs, Leafhoppers, Thrips, Black leafhoppers	½ - 1½ pints/Acre	Do not apply less than 14 days before harvest. Do not repeat application within 14 days. Do not feed treated forage or graze livestock on treated fields. Make only two applications per season as needed.
Safflower (grown in CA)	Aphids, Leafhoppers, Lygus bugs, Thrips	½ - 1½ pints/Acre	Do not apply less than 14 days before harvest. Repeat applications should not be made at intervals closer than 14 days. Do not make more than two applications at the higher rate.
Tomatoes, Watermelons, Melons	Aphids, Leafminers, Leafhoppers	½ - 1½ pints/Acre	Do not apply less than 7 days before harvest.
Mustard greens, Swiss chard, Endive (escarole)	Aphids, Leafhoppers, Leafminers	½ pint/Acre	Do not apply less than 24 days before harvest.
Wheat (grown in Texas, Oklahoma, Kansas, South Dakota)	Aphids	½ - 1½ pints/Acre	Do not apply within 14 days of grazing immature plant. Do not harvest grain within 80 days of last application. Do not make more than 2 applications per growing season.
	Brown wheat mite	½ - ½ pints/Acre	
Sorghum	Greenbug	½ - 1½ pints/Acre	(½ to ¾ pint/Acre for light infestations on young sorghum prior to head formation.) Do not apply after heading. Do not feed or graze within 28 days of last application. Make only three ground applications per season as needed.
Field Corn	Barns Grass Mite (except Trans pecos area of Texas)	1 - 1½ pints/Acre	Broadcast by air. Spray over the foliage when mites appear. Apply in ratio of 1 part DE-FEND E-267 in 20 quarts of water. Do not use less than 2½ gallons per acre for 1 pint rate and 3½ gallons per acre for 1½ pint rate. Days between last application and harvest 14 (Paragard) 42 (gran). Apply as necessary. Make no more than 3 applications per year. Foliar Application. Do not apply to corn during the pollen-shed period.
Cotton (Early Season)	Thrips, Mites, Aphids	½ - ½	Do not apply less than 14 days before harvest. Do not repeat application within 14 days. Do not feed treated forage or graze livestock on treated fields.

CROP	PESTS CONTROLLED	RATE	LIMITATIONS	Days between last application and harvest.
Potatoes	Aphids, Leaf miners, Leafhoppers	½ - 1½ pints/Acre	Potatoes may be harvested on day of application.	
Beans (green, lima, snap, dry)	Aphids, Leaf miners, Leafhoppers, Mites, Lygus bugs	½ - 1½ pints/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.	11
Broccoli, Cauliflower, Cabbage	Aphids	½ - 1½ pints/Acre	Do not apply less than 7 days before harvest.	
Head lettuce	Aphids, Leafhoppers, Leaf miners	½ pints/Acre	Do not apply less than 7 days before harvest.	
Leaf lettuce, Spinach, Celery, Kale, Turnip (greens and roots)	Aphids, Leafhoppers, Leaf miners	½ pints/Acre	Do not apply less than 24 days before harvest.	
Peas	Aphids	½ pints/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. Do not make more than one application per growing season. This pesticide is highly toxic to bees, do not apply if bees are visiting.	
Apples, Pears (bearing & non bearing)	Aphids, Leafhoppers, Pear Psylla, Mites (except rust mites)	½ - 1½ pints/100 gals. water	Foliar application: Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom. Do not apply less than 28 days before harvest. Do not graze livestock on cover crops in treated orchards. Foliar Application: Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom.	
Citrus (non bearing) (AZ & CA)	Thrips, Aphids		SOIL DRENCH: For trees 1 - 3 years old apply 3 quarts per acre in the furrow or soil ring around the base of the tree. Apply as soon as insect injury to new growth begins. Use only on non-bearing trees. Nursery stock application should not be made in the year trees begin to bear fruit. Do not graze livestock on cover crops in treated orchards. Foliar Application: Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom.	
Lemons, Oranges	Aphids, Thrips	Ground Equipment: ½ - 1½ pints/100 gals. water. Apply as an outside coverage spray. Aerial Equipment: 3 to 6 pints/Acre in 15 to 20 gals. water. Do not graze livestock on cover crops in treated orchards. Foliar Application: Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom. Make no more than 2 applications to mature fruit.		15
Grapefruit	Mites	Ground Equipment: ½ - 1½ pints/100 gals. water. Apply as a thorough distribution coverage spray. Do not graze livestock on cover crops in treated orchards. Foliar Application: Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom. Make no more than 2 applications to mature fruit.		15
Tar greens	Scales (except black or snow)	Ground Equipment: 1½ - 2½ pints/100 gals. water. Apply as a thorough coverage spray. Do not graze livestock on cover crops in treated orchards. Foliar Application: Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom. Make no more than 2 applications to mature fruit.		45
	White flies	Ground Equipment: 1½ pints/100 gals. water. Apply as a thorough distribution coverage spray. Do not graze livestock on cover crops in treated orchards. Foliar Application: Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom. Make no more than 2 applications to mature fruit.		15

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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; flood (basin); furrow; border; or drip (trickle) irrigation system(s). 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 nonuniform 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 systems (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 its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Mix in clean supply tank the recommended amount of this product for acreage to be covered, and needed quantity of water.

This product should not be tank-mixed with other pesticides, surfactants or fertilizers unless prior use has shown the combination noninjurious under your conditions of use. Follow precautionary statements and directions for all tank-mix products.

On all crops, use sufficient gallonage of water to obtain thorough and uniform coverage, but not cause runoff or excessive leaching. This will vary depending on equipment, pest problem and stage of crop growth. Application of more or less than optimal quantity of water may result in decreased chemical performance, crop injury or illegal pesticide residues.

Meter this product into the irrigation water uniformly during the period of operation. Do not overlap application. Follow recommended label rates, application timing and other directions and precautions for crop being treated.

Continuous mild agitation of pesticide mixture may be needed to assure a uniform application, particularly if the supply tank requires a number of hours to empty.

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 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 systems 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 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 systems 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 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 or weir box to decrease potential for water source contamination from the 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 systems 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 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 systems 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 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.

STORAGE AND DISPOSAL

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

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous.

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: Plastic: Triple rinse (or equivalent).

Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

IMPORTANT NOTICE—Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions and instructions specified on the label under normal conditions of use, but neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product, contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

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