

5905-497

7/6/2010

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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

JUL 6 2010

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332/1300

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332/1136

Ms. Cheryl Wagner
Agent for Helena Chemical Company
Wagner Regulatory Associates, Inc.
P.O. Box 640
Hockessin, DE 19707

Dear Ms. Byrd:

Subject: 5 LB. DIMETHOATE SYSTEMIC INSECTICIDE
EPA Registration Number 5905-497
Your Submissions dated June 28, 2010, and July 1, 2010

The Agency has received your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 2007-4 dated June 28, 2010, for the product 5 Lb. Dimethoate Systemic Insecticide, EPA Reg. No. 5905-497. The Registration Division (RD) finds that the action requested, as modified by the label submitted on July 1, 2010, falls within the scope of PRN 2007-4. The label submitted on July 1, 2010, has been stamped "Notification" and will be placed in our records.

The label submitted on July 1, 2010, should have been accompanied by a new certification statement attesting that the only changes made to the label were those pertaining to PR Notice 2007-4.

If you have any questions regarding this letter, you may reach me by phone at 703-305-6406, by FAX at 703-308-0029, or via e-mail at jacobs.bill@epa.gov.

Sincerely yours,

A handwritten signature in black ink, appearing to read "William W. Jacobs".

William W. Jacobs
Insecticide-Rodenticide Branch
Registration Division (7505P)

20628



United States
Environmental Protection Agency
Washington, DC 20460

<input checked="" type="checkbox"/> Registration	OPP Identifier Number
<input type="checkbox"/> Amendment	
<input type="checkbox"/> Other	

Application for Pesticide - Section I

1. Company/Product Number 5905-497	2. EPA Product Manager Venus Eagle	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) 5 lb. Dimethoate Systemic Insecticide	PM# 1	
5. Name and Address of Applicant (Include Zip Code) Helena Chemical Company c/o Wagner Regulatory Associates, Inc. P.O. Box 640 Hockessin, DE 19707 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(I), my product is similar or NOTIFICATION identical in composition and labeling to: EPA Reg. No. Product Name JUL 06 2010	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For Section I and Section II.)
Notification of label change per PR Notice 2007-4. This notification is consistent with the provisions of PR Notice 2007-4 and EPA Regulations at 40 CFR 156.10, 154.140, 156.144, 156.146, and 156.156. No other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the requirements 40 CFR 156.10, 156.140, 156.144, 156.146, and 156.156, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under Sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container	<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
				<input type="checkbox"/> Other (Specify) HDPE lined bags	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 1 gal., 2.5 gal., 5 gal., 30 gal.		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product		<input type="checkbox"/> Lithograph <input type="checkbox"/> Other ___ adhesive backed label _____			
		<input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Cheryl Wagner	Title Agent for Helena Chemical Company	Telephone No. (Include Area Code) (302) 234 8551
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Agent for Helena Chemical Company	
4. Typed Name Cheryl Wagner	5. Date June 28, 2010	

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June 28, 2010



Wagner Regulatory Associates, Inc.
P.O. Box 640
7460 Lancaster Pike, Suite 9
Hockessin, Delaware 19707

Document Processing Desk (NOTIF)
ATTN: William Jacobs, PM 1
Registration Division (7504P)
U.S. Environmental Protection Agency
Room S-4900, One Potomac Yard
2777 South Crystal Drive
Arlington, Virginia 22202-4501

Dear Mr. Jacobs:

Re: 5 lb. Dimethoate Systemic Insecticide
EPA Registration Number 5905-497
Notice of Revised Storage & Disposal Label Language

In response to your letter dated June 24, 2010, Wagner Regulatory Associates, Inc., hereby submits to the Agency revised storage and disposal language and a revised Notification form as you requested.

Please feel free to contact me at (302) 234-2780 if you have any questions or require additional information.

Respectfully submitted,

A handwritten signature in cursive script that reads 'Cheryl Wagner'.

Cheryl Wagner
Agent for Helena Chemical Company

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SPECIMEN LABEL

5 LB. DIMETHOATE SYSTEMIC INSECTICIDE

ACTIVE INGREDIENT:

Dimethoate O,O-dimethyl S-(N-methyl carbamoylmethyl) phosphorothioate	57.0%
OTHER INGREDIENTS	43.0%
TOTAL	100.0%

This product contains 5 lbs. Dimethoate per gallon.

KEEP OUT OF REACH OF CHILDREN

DANGER - PELIGRO

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

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER - PELIGRO

Corrosive causes irreversible eye damage. May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes, or clothing.

FIRST AID

Organophosphate

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.

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 ON SKIN:

- Take off contaminated clothing
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment

IF INHALED:

- Move person to fresh air.

Disclaimer: Always refer to the label on the product before using Helena or any other product. Revised Storage Disposal 11May2010

- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
- Call a poison control center or doctor for further treatment advice.

HOT LINE NUMBER

Have the product container with you when calling a poison control center or doctor, or going for treatment. In case of emergency, call 800-424-9300.

NOTE TO PHYSICIAN: This product may cause cholinesterase inhibition. Antidote is Atropine.

Probable mucosal damage may contraindicate the use of gastric lavage.

SEE INSIDE PANEL FOR DIRECTIONS FOR USE AND ADDITIONAL PRECAUTIONS

Patent No. 5,234,919 SN 0203/0904
 EPA REG. NO. 5905-497 NET CONTENTS:
 EPA EST NO.: First letters of batch code indicate producing establishment:
 5905-GA-1 = CG; 5905-AR-1 = WA; 5905-IA-1 = DI;
 5905-FL-1 = TF; 5905-CA-1 = KC

MANUFACTURED FOR
 HELENA CHEMICAL COMPANY
 225 SCHILLING BOULEVARD, SUITE 300
 COLLIERVILLE, TN 38017

PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

Mixers, loaders, applicators, flaggers and other handlers must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks,
- Chemical-resistant gloves,
- a NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any N, R, P, or HE filter, and
- Chemical-resistant apron when mixing, loading, cleaning up spills, or equipment

See Engineering Controls for additional requirements and exceptions.

NOTIFICATION

JUL 06 2010

SPECIMEN LABEL

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

When handlers use closed systems, or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-5), 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/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. This pesticide is toxic to wildlife and aquatic invertebrates. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

Engineering Controls

Mixers and loaders supporting aerial application to alfalfa, cotton, soybeans, corn, safflower, sorghum, and wheat must use a closed system that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)]. The system must be capable of removing the pesticide from the shipping container and transferring it into mixing tanks and/or application equipment. At any disconnect point, the system must be equipped with a dry disconnect or dry couple shut-off device that is warranted by the manufacturer to minimize drippage to no more than 2 ml per disconnect. In addition, mixers and loaders must:

- wear the personal protective equipment required on this labeling for mixers/loaders, except no respirator is required;
- wear protective eyewear, if the system operates under pressure; and
- be provided and have immediately available for use in an emergency, such as a broken package, spill, or equipment breakdown, chemical-resistant footwear and a respirator of the type specified in the PPE section of this labeling.

Do not apply directly to water, or 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 washwater or rinsate.

Dimethoate is known to leach through soil into ground water under certain conditions as a result of label use. Use of the chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several days after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product.

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Pilots need not wear the PPE required in this labeling for applicators, but must wear at least a long-sleeve shirt, long pants, shoes, and socks.

A level well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

A vegetative filter strip constructed and maintained in accordance with the 2000 Natural Resource Conservation Service publication "Conservation Buffers to Reduce Pesticide Losses (<http://www.nrcs.usda.gov/feature/buffers/>) will significantly reduce the potential for contamination of water from rainfall-runoff."

SPECIMEN LABEL

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to the discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

Flammable. Keep away from heat and open flame.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

This product is for use in commercial setting only. Use in residential settings is prohibited.

For any requirement specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Do not use on ornamental plants grown in greenhouses, shade houses, Christmas tree and conifer plantations. Landscapes, interiorscapes and residential, public, recreational, commercial, industrial and institutional establishments.

This product may be used to formulate products for any additional use(s) not listed on the Manufacturing Use Product (MUP) label if the formulator, user group, or grower has compiles with U.S. EPA.

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.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR 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

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Revised Storage Disposal 11May2010

equipment (PPE) and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

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 worn over long-sleeve shirt and long pants,
- Chemical-resistant gloves made of any waterproof material,
- Chemical-resistant footwear plus socks, and
- Chemical-resistant headgear (if overhead exposure)

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

STORAGE AND DISPOSAL

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

STORAGE: This product is susceptible to moisture. Therefore, if only a portion of the product is used, the container should be closed airtight immediately because additional moisture will degrade the product. Store in a cool, dry area. Do not store below 40F, as product may crystallize. Avoid storage above 95F as prolonged storage above 90F may cause loss in grade.

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:
NONREFILLABLE CONTAINER (EQUAL TO OR LESS THAN 5 GALLONS): 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 ¼ full with water and recap. Shake for 10

7028

SPECIMEN LABEL

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 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.

NONREFILLABLE CONTAINER (GREATER THAN 5 GALLONS): 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. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available, 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.

5 LB. DIMETHOATE is a clear liquid. When added to water, it will disperse readily and will remain physically stable with a minimum amount of agitation. Do not use, pour, spill, or store near heat or flame. Apply this product only as specified on this label.

Application equipment: **5 LB. DIMETHOATE** can be applied by any pressure sprayer that will give uniform distribution of the spray such as ground sprayers, aerial sprayers or portable sprayers.

Aerial Application:

Automatic Flagger devices should be used whenever feasible.

If human flaggers are employed, they must wear the protective clothing and respirator specified on this label.

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 hard move; flood (basin); furrow; border; or drip (trickle) 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 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 non-injurious under your conditions of use and provided chemigation is permitted on the label of products to be tank-mixed.

Follow precautionary statements and directions for all tank-mixed 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.

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Revised Storage Disposal 11May2010

SPECIMEN LABEL

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

Note: This company does not encourage connecting chemigation systems to public water supplies. The following information is provided for users who have diligently considered all other application and water supply options before electing to make such a connection.

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 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)

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Revised Storage Disposal 11May2010

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

90228

SPECIMEN LABEL

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.

REQUIREMENTS FOR REDUCING SPRAY DRIFT

Do not apply under circumstances where possible drift to unprotected persons or to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption can occur.

1. Use the largest droplet size consistent with acceptable efficacy. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure. For groundboom and aerial applications, use medium or coarser spray nozzles according to ASAE 572 definition for standard nozzles or a volume mean diameter (VMD) of 300 microns or greater for spinning atomizer nozzles.
2. Make aerial or ground applications when the wind velocity favors on-target product deposition. Apply only when the wind speed is less than or equal to 10 mph. For all non-aerial applications, wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.
3. Do not make aerial or ground applications into areas of temperature inversions. Inversions are characterized by stable air and increasing temperatures with increasing distance above the ground. Mist or fog may indicate the presence of an inversion in humid areas. Where permissible by local regulations, the applicator may detect the presence

SPECIMEN LABEL

- of an inversion by producing smoke and observing a smoke layer near the ground surface.
4. Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift. Avoid spraying during conditions of low humidity and/or high temperatures.
 5. All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.
 6. For groundboom applications, apply with nozzle height no more than 4 feet above the ground or canopy.
 7. For airblast applications, turn off outward pointing nozzles at row ends when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.
 8. For aerial applications, release spray at the lowest height consistent with efficacy and flight safety. If the application includes an aquatic buffer zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.
 9. For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wing tip vortices. The minimum practical boom length should be used and must not exceed 75% of the wingspan or 90% of rotor blade diameter. Use upwind swath displacement.
- ¹PPE that is established on the basis of Acute Toxicity of the end-use product must be compared to the active ingredient PPE in this document. The more protective PPE must be placed in the product labeling. For guidance on which PPE is considered more protective, see PR Notice 93-7.

used as a residence or domestic dwelling, or on any articles or areas associated with such structures (including household contents, home gardens, and home greenhouses); and, from any use in or around public or private buildings or structures (including recreational facilities, theaters, hotels, or other buildings used for public accommodation, or in any other commercial, industrial, or institutional building), or on any articles associated with such structures, including refuse areas, building contents and landscaping (but not including outdoor commercial ornamental tree and shrub production areas). When applying by ground equipment, use the recommended amount in sufficient water for thorough coverage; by aircraft, in 3 to 10 gallons of water unless otherwise specified. 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 Insecticide is sensitive to Alkaline Hydrolysis and subject to degradation of active ingredient by strong acids, strong bases, and certain heavy metal oxides and salts. Degradation can cause reduced effectiveness of the pesticide performance.

DO NOT ADD DIMETHOATE TO WATER WITH PH VALUES BELOW 4.0 OR ABOVE 7.0. If necessary, water should be buffered within this range with **Buffer Xtra Strength™** or **Penetrator® Plus**.

CONVERSION CHART

1 cup = 8 fl. oz.
 1 pint = 16 fl. oz.
 1 quart = 32 fl. oz.
 1 gallon = 128 fl. oz.

INFORMATION

This product is intended for use by the commercial grower or commercial applicator in conventional hydraulic sprayers, ground applicators or airplane sprayers. This product is prohibited from use in or around any structure

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 Revised Storage Disposal 11May2010

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SPECIMEN LABEL

APPLICATION DIRECTIONS
FRUIT

PEARS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Leafhoppers, Leafrollers, Mites (except Rust Mites), Lygus Bugs, Pear Psylla, Stinkbugs, and Campyloomma	6.4-12.8 fl. oz. per 100 gals. Water (.25 lb a.i.-.5 lb a.i.)	Do not apply within 28 days of harvest. Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom. Do not graze livestock in treated orchards.
Notes and Restrictions: <ul style="list-style-type: none"> • Maximum application rate: 1 lb a.i./A • Maximum total application rate per year: 1 lb a.i./A • The REI is 10 days; however, the REI is increased to 14 days in outdoor areas where the average rainfall is less than 25 inches per year. 		

CITRUS, GRAPEFRUIT, LEMONS, ORANGES, TANGERINES

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids	Ground equipment: 6.4-12.8 fl. oz. per 100 gals. water.	Apply as an outside coverage spray. Do not graze livestock in treated orchards. Do not apply within 15 days of harvest.
Mites (except Rust Mites)	Ground equipment: 6.4-12.8 fl. oz. per 100 gals. water.	Apply as a thorough distribution coverage spray. Do not graze livestock in treated orchards. Do not apply within 15 days of harvest.
Scales (except Black or Snow)	Ground equipment: 12.8-19.2 fl. oz. per 100 gals. water.	Apply as a thorough coverage spray. Do not graze livestock in treated orchards. Do not apply within 45 days of harvest.
Thrips	Ground equipment: 6.4-12.8 fl. oz. per 100 gals. water.	Apply as a mist spray. Do not graze livestock in treated orchards. Do not apply within 15 days of harvest.
Whiteflies	Ground equipment: 12.8 fl. oz. per 100 gals. water	Apply as a thorough distribution coverage spray. Do not graze livestock in treated orchards. 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 graze livestock or cover crops in treated orchards.
Notes and Restrictions: <ul style="list-style-type: none"> • Maximum application rate: 1 lb a.i./A • Maximum total rate per year: 1 lb a.i./A • The REI is 10 days; however, the REI is increased to 14 days in outdoor areas where the average annual rainfall is 		

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Revised Storage Disposal 11May2010

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less than 25 inches per year.

CITRUS, GRAPEFRUIT, LEMONS, ORANGES, TANGERINES (ARIZONA ONLY)

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Thrips	Ground equipment: Apply 1 lb. a.i. (25 fl. oz.) in not less than 20 gals. water per acre.	<p>Use specified dosage in the amount of water necessary to achieve adequate coverage of foliage. The type of equipment used will determine the concentration required. Do not apply within 15 days of harvest.</p> <p>Use of dimethoate is prohibited during any time of day in any given orchard from when that orchard has 10% open blooms until such time as there has been at least 75% petal fall on the north side of the trees. Applications of dimethoate shall be limited to that period of time between one (1) hour after sunset to three (3) hours before sunrise when any one of the following conditions prevail: 1) before the onset of petal fall, the orchard to be treated has open blooms present and these open blooms represent less than 10% of the total anticipated blooms in the orchard; 2) after the initiation of petal fall there are less than 25% of open blooms remaining in the orchard to be treated; or 3) it is between the calendar dates of February 15 and May 1st.</p> <p>All applications of dimethoate on citrus must be documented on Form 1080 written either by a pest control advisor, farm owner or farm manager as is normally required for custom applications of pesticides, except that private applicators may omit the "Pesticide Application Report" section. The description of the status of bloom of the orchard to be treated as it was at the time of the application shall be indicated in the section for "Label Restrictions/Special Instruction". Both private and custom applicators shall mail to the Agriculture Department's Phoenix office the original of each completed Form 1080 done in accordance with this label. Each Form 1080 shall be postmarked not later</p>

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		than Monday the following week in which the application was made, except when holidays intervene.
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Notes and Restrictions:

- Maximum application rate: 1 lb a.i./A
- Maximum total rate per year: 1 lb a.i./A
- The REI is 10 days; however, the REI is increased to 14 days in outdoor areas where the average annual rainfall is less than 25 inches per year.

NUTS

PECANS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Mites, Leafhoppers	Ground equipment: 8.4 fl. oz. per acre	Do not graze livestock in treated groves. Do not apply within 21 days of harvest.

Notes and Restrictions:

- Maximum application rate: 0.33 lb a.i./A
- Maximum total application rate per year: 0.33 lb a.i./A
- The REI is 48 hours

VEGETABLE CROPS

BEANS (INCLUDING FRESH, SNAP, LIMA, and DRY BEANS and EXCLUDING COWPEAS)

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Grasshoppers, Leafhoppers, Leafminers, Lygus Bugs, Mites, Bean Leaf beetle, Mexican Bean Beetle	6.4 fl. oz. – 12.8 fl. oz. per acre.	Do not apply within 7 days of harvest. 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.

Notes and Restrictions:

- Maximum single application rate: 0.5 lb a.i./A
- 14 day retreatment interval
- Maximum total rate per season: 1 lb a.i./A
- The REI is 48 hours

GARBANZO BEANS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Grasshoppers, Leafhoppers, Leafminers, Lygus Bugs, Mites	6.4 fl. oz. – 12.8 fl. oz. 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.

Notes and Restrictions:

- Maximum single application rate: 0.5 lb a.i./A
- 14 day retreatment interval

140 of 28

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- Maximum total rate per season: 1 lb a.i./A
- The REI is 48 hours

BROCCOLI, CAULIFLOWER

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids	6.4 fl. oz. – 12.8 fl. oz. per acre.	Do not apply within 7 days of harvest.

Notes and Restrictions:

- Maximum application rate: 0.5 lb a.i./A
- 7 day retreatment interval
- Maximum total rate per year: 1.5 lbs a.i./A
- The REI is 48 hours; however, the REI is increased to 72 hours in outdoor areas where the average annual rainfall is less than 25 inches per year.

CELERY (FLORIDA)

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Leafminers	12.8 fl. oz. per acre.	Do not apply within 7 days of harvest.

Notes and Restrictions:

- Maximum application rate: 0.5 lb a.i./A
- 7 day retreatment interval
- Maximum total rate per year: 1.5 lbs a.i./A
- The REI is 48 hours

LEAF LETTUCE, KALE, TURNIP (GREENS AND ROOTS), MUSTARD GREENS, SWISS CHARD, ENDIVE (ESCAROLE)

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Leafhoppers, Leafminers	6.4 fl. oz. per acre.	Do not apply within 14 days of harvest.

Notes and Restrictions:

Kale:

- Maximum single application rate: 0.25 lb a.i./A
- 15 day reapplication interval
- Maximum total rate per year: 0.5 lb a.i./A
- The REI is 48 hours

Leaf Lettuce, Swiss Chard, Endive (Escarole):

- Maximum application rate: 0.25 lb a.i./A
- 7 day reapplication interval
- Maximum total rate per year: 0.75 lb a.i./A
- The REI is 48 hours

Mustard Greens:

- Maximum application rate: 0.25 lb a.i./A
- 9 day reapplication interval
- Maximum total rate per year: 0.5 lb a.i./A
- The REI is 48 hours

Turnip (Greens & Roots):

- Maximum application rate: 0.25 lb a.i./A
- 3day reapplication interval
- Maximum total rate per year: 1.75 lbs a.i./A
- The REI is 48 hours

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LENTILS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Lygus Bugs	6.4 - 12.8 fl. oz. per acre.	Apply when insects first appear. Repeat applications as necessary. Do not apply within 14 days of harvest. 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.

Notes and Restrictions:

- Maximum application rate: 0.5 lb a.i./A
- 7 day reapplication interval
- Maximum total rate per year: 1 lb a.i./A
- The REI is 48 hours

LUPINE

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Lygus Bugs	6.5 - 13 fl. oz. per acre.	Apply when aphids first appear. Make only 2 applications per season. 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.

Notes and Restrictions:

- Maximum single application rate: 0.5 lb a.i./A
- 14 day reapplication interval
- Maximum total rate per year: 1 lb a.i./A
- The REI is 48 hours

MELONS (EXCEPT WATERMELONS)

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Leafhoppers, Leafminers, Thrips	12.8 fl. oz. per acre.	Do not apply within 3 days of harvest.

Notes and Restrictions:

- Maximum application rate: 0.5 lb a.i./A
- 7 day reapplication interval
- Maximum total rate per year: 1 lb a.i./A
- The REI is 48 hours

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MELONS (WATERMELONS)

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Leaf miners, Leafhoppers, Maggots	6.4 - 12.8 fl. oz. per acre.	Do not apply within 3 days of harvest.
Notes and Restrictions: <ul style="list-style-type: none"> • Maximum application rate: 0.5 lb a.i./A • 7 day reapplication interval • Maximum total rate per year: 1 lb a.i./A • The REI is 48 hours 		

PEAS (SUCCULENT)

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Lygus Bugs	4.0 fl. oz. per acre.	Do not apply within 7 days of harvest. 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. Make no more than one application per season to peas. 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.
Notes and Restrictions: <ul style="list-style-type: none"> • Maximum application rate: 0.16 lb a.i./A • Maximum total rate per year: 0.16 lb a.i./A • The REI is 48 hours • Not for use on field peas Note: There are SLN registrations for succulent peas for which the total seasonal rate is not to exceed 0.5 lb a.i./acre.		

PEPPERS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Leafminers, Maggots	6.4 - 8.4 fl. oz. per acre.	Do not apply within 7 days of harvest.
Notes and Restrictions: <ul style="list-style-type: none"> • Maximum application rate: 0.33 lb a.i./A • 7 day reapplication interval • Maximum total rate per year: 1.65 lbs a.i./A • The REI is 48 hours 		

POTATOES

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Grasshoppers, Leafminers, Leafhoppers	6.4 - 8.4 fl. oz. per acre.	Do not apply within 7 days of harvest.
Notes and Restrictions: <ul style="list-style-type: none"> • Maximum application rate: 0.5 lb a.i./A 		

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- 6 day reapplication interval
- Maximum total rate per year: 1 lb a.i./A
- The REI is 48 hours

TOMATOES

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Leafminers, Leafhoppers	6.4 – 12.8 fl. oz. per acre.	Do not apply within 7 days of harvest.
Notes and Restrictions: <ul style="list-style-type: none"> • Maximum application rate: 0.5 lb a.i./A • 6 day reapplication interval • Maximum total rate per year: 1 lb a.i./A • The REI is 48 hours 		

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

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Grasshoppers, Leafhoppers, Lygus Bugs, Reduction of Alfalfa Weevil Larvae	6.4 – 12.8 fl. oz. 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.
Notes and Restrictions: <ul style="list-style-type: none"> • Maximum application rate: 0.5 lb a.i./A • Maximum total rate per crop cycle or cutting: 0.5 lb a.i./A • The REI is 48 hours 		

FIELD CORN

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Banks Grass Mites (excluding Trans-Pecos area of Texas), Aphids, Bean Beetle, Corn Rootworm Adult*, Two-Spotted Spider Mite	8.4-12.8 fl. oz. per acre.	Aerial Application: Spray over the foliage when mites appear. Apply above rates in 1 or more gals. of water per acre. *NOTE - Corn Rootworm Adult not registered for use in California.
Grasshoppers	12.8 fl. oz. per acre	Ground Application: Apply above rate in 20 to 40 gals. of water per acre. Aerial Application: Apply above rate in 1 or more gals. of water per acre. Do not apply within 14 days of harvest. Apply as necessary. Make no more

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Revised Storage Disposal 11May2010

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		<p>than 3 applications per year. Do not feed or graze within 14 days of last application. Do not apply to corn during the pollen-shed period if bees are visiting the area.</p>
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Notes and Restrictions:

- Maximum application rate: 0.5 lb a.i./A
- Maximum total rate per year: 0.5 lb a.i./A
- PHI for Grain: Do not harvest for Grain within 28 days of last application.
- PHI for Forage: Do not use as forage within 14 days of last application.
- The REI is 48 hours

PROHIBITION: Workers are prohibited from entering the treated area to perform detasseling tasks for 4 days in nonarid areas and for 15 days in outdoor areas where the average annual rainfall is less than 25 inches per year.

COTTON (GROWN IN CALIFORNIA AND ARIZONA)

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Lygus Bugs, Leafhoppers, Black Fleahoppers	6.4-12.8 fl. oz. per acre	Repeat applications must not be made at intervals closer than 14 days. Do not feed treated forage or graze livestock on treated fields. Make only 2 applications per season at the higher rate. Do not apply within 14 days of harvest.

Notes and Restrictions:

- Maximum single application rate: 0.5 lb a.i./A
- 14 day retreatment interval
- Maximum total rate per year: 1 lb a.i./A
- The REI is 48 hours

COTTON

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Mites, Thrips, Fleahoppers, Lygus Bugs	3.2-6.4 fl. oz. per acre	Repeat applications must not be made at intervals closer than 14 days. Make only 4 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.

Notes and Restrictions:

- Maximum single application rate: 0.5 lb a.i./A
- 14 day retreatment interval
- Maximum total rate per year: 1 lb a.i./A
- The REI is 48 hours

SAFFLOWER (GROWN IN CALIFORNIA AND ARIZONA)

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Leafhoppers, Plant Bugs including Lygus and Thrips	6.5-13 fl. oz. per acre	Repeat applications must not be made at intervals closer than 14 days. Make only 2 applications per season at the

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		higher rate.
Notes and Restrictions: <ul style="list-style-type: none"> • Maximum single application rate: 0.5 lb a.i./A • Maximum total rate per year crop cycle or cutting: 0.5 lb a.i./A • The REI is 48 hours 		

SORGHUM (MILO)

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids	6.4-12.8 fl. oz. per acre	Ground application: Apply above rates in 25 to 40 gals. of water per acre. Aerial application: Apply above rates in 2 or more gals. of water per acre.
Banks grass mites (excluding Trans-Pecos area of Texas), Grasshoppers, Spider Mites	12.8 fl. oz. per acre	Ground application: Apply above rate in 25 to 40 gals. of water per acre. Aerial application: Apply above rate in 1 or more gals. of water per acre
Sorghum midge	3.2-6.4 fl. oz. per acre	Aerial application: Apply above rates in 1 or more gals. 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

Notes and Restrictions: <ul style="list-style-type: none"> • Maximum single application rate: 0.5 lb a.i./A • 7 day reapplication interval • Maximum total rate per year: 1 lb a.i./A • The REI is 48 hours 		
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SOYBEANS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Mexican Bean Beetle, Leafhopper, Spider Mites, Bean Leaf beetle, Three-Cornered Alfalfa Hopper*	12.8 fl. oz. per acre	Aerial application: Apply recommended rate in a minimum of 2 gals. of water per acre. *NOTE: Three -Cornered Alfalfa Hopper not registered for use in California.
Grasshoppers	12.8 fl. oz. per acre	Ground application: Apply above rate in 25 to 40 gals. of water per acre. Aerial application: Apply above rate in 1 or more gals. of water per acre. Do not feed or graze within 5 days of last application. Do not apply within 21 days of harvest.

Notes and Restrictions: <ul style="list-style-type: none"> • Maximum single application rate: 0.5 lb a.i./A • 7 day reapplication interval • Maximum total rate per year: 1 lb a.i./A • The REI is 48 hours 		
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Revised Storage Disposal 11May2010

2002 28

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WHEAT

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids (Greenbugs)	6.4-9.6 fl. oz. per acre	Do not apply within 14 days of grazing immature plant. Do not harvest grain within 35 days of last application. Make no more than 2 applications as needed per season.
Brown Wheat Mite	4.2-6.4 fl. oz. per acre	
Grasshoppers	9.6 fl. oz. per acre	
Notes and Restrictions:		
<ul style="list-style-type: none"> • Maximum single application rate: 0.5 lb a.i./A • Maximum total rate per year crop cycle or cutting: 0.5 lb a.i./A • The REI is 48 hours 		

SEED CROPS

ALFALFA

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Leafhoppers, Lygus Bugs, Grasshoppers, Reduction of Alfalfa Weevil Larvae	6.4-12.8 fl. oz. 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.
Notes and Restrictions:		
<ul style="list-style-type: none"> • Maximum single application rate: 0.5 lb a.i./A • Maximum total rate per year crop cycle or cutting: 0.5 lb a.i./A • The REI is 48 hours 		

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.

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.

CITRUS (CALIFORNIA, ARIZONA) GRAPEFRUIT, LEMONS, ORANGES, TANGERINES

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Thrips	Foliar Spray: 12.8 fl. oz. per 100 gals. of water.	Repeat applications as necessary. May be applied in the year grapefruit, lemon, orange and tangerine trees begin to bear fruit. Do not graze livestock in treated orchards. Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom.

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Revised Storage Disposal 11May2010

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	<p>Soil Drench (Trees 1 to 3 years old): 3 1/4 pints per acre applied in the furrow or basin around the base of tree. 6.4-12.8 fl. oz. per acre</p>	<p>Apply when insect injury to new growth appears. Do not apply to trees that will bear fruit within one year. Do not graze livestock in treated orchards. Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom.</p>
<p>Notes and Restrictions:</p> <ul style="list-style-type: none"> • Maximum single application rate: 1 lb a.i./A • Maximum total rate per year: 1 lb a.i./A • The REI is 10 days; however, the REI is increased to 14 days in outdoor areas where the average annual rainfall is less than 25 inches per year. 		

ORNAMENTALS

5 LB. DIMETHOATE is effective in controlling many sucking, piercing and chewing insects that attack valuable ornamental plantings. Apply sprays uniformly and thoroughly to foliage, except as otherwise directed, when insects or their damage is first observed. Repeat applications as needed. Do not overdose or over spray. Use only on the ornamental plants listed below.

IMPORTANT - When making soil injections, use a low pressure soil injection device. **DO NOT** inject into soil areas where children or pets may dig or exhume treated soil. Do not make soil injections within 20 feet of edible crop gardens.

A small test area should always be sprayed first before general use. Do not use on any ornamental stock plants grown as a source of propagation material, such as cuttings, layers, root stocks or scions for grafting or budding. Do not use in spray mixtures containing oil. Do not use on ornamental plants grown in greenhouses, shade houses, Christmas tree and conifer plantations, landscapes, interiorscapes and residential, public, recreational, commercial, industrial and institutional establishments.

Herbaceous Ornamentals

- Maximum application rate: 0.25 lb a.i./A
- Maximum total rate per year: 0.25 lb a.i. /A
- The REI is 48 hours

Woody Ornamentals

- Maximum application rate: 1 lb a.i./A
- 14 day reapplication interval
- Maximum total rate per year: 3 lbs a.i./A – When applications are made by high pressure handwand equipment, the maximum application rate for all crops and use-patterns is 0.0025 pounds active ingredient per gallon.
- The REI is 10 days; however, the REI is increased to 14 days in outdoor areas where the average annual rainfall is less than 25 inches per year.

HACKBERRY

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Hackberry Nipplegall Psyllid, Hackberry Budgall Psyllid	Soil injection: Use a 1:3 dilution. (1 part 5 LB. DIMETHOATE to 3 parts water)	Apply using a low-pressure injector. Inject 3/4 fl. oz. of dilution, 6 inches below ground, for each 1/2 inch of trunk diameter. Make insertions within dripline of tree. Apply prior to bud

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		break. Do not apply to plants that have not been established for at least 3 years.
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HONEYSUCKLE**

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Honeysuckle Aphid	Soil injection: Use a 1:3 dilution	Apply using a low-pressure injector. Inject 1 fl. ozs. of dilution, 6 inches beneath ground surface, for each 1/2 inch of trunk diameter. Do not apply to plants that have not been established for at least 3 years.

PINYON PINE

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Pinyon Needle Scale	20 ozs. in 10 gals. water	Apply spray to egg masses at the base of the trees and to all rough bark and crotches that can be reached from the ground. Make this bark application when crawlers start to emerge from the eggs. Use hydraulic or backpack sprayer. Do not spray leaves or needles since phytotoxicity may result.
Pinyon "Pitch Mass" Borer, Pinyon Spindle Gall Midge, Tip Moth	Soil injection: Use a 1:3 dilution	Apply using a low-pressure injector. Inject 1 fl. ozs. of dilution, 6 inches below ground surface, for each 1 inch of trunk diameter. Make insertions within dripline of tree. For Spindle Gall Midge and Tip Moth , apply in mid to late spring. For Pinyon Borer make application in early summer.

DOUGLAS FIR

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Fir Cone Midge	5 ozs. in 10 gals. water	Make thorough coverage application when cones are closed and pendant. Use hydraulic or backpack sprayer

PINES

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Loblolly Pine Sawfly, Nantucket Pine Tip Moth	4½ ozs. in 10 gals. water	Apply when most larvae are in the second and third instars
Zimmerman Pine Moth	2¾ ozs. in 10 gals. water	Spray in mid-April and/or in early September for larvae control

ARBORVITAE

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Bagworm, Mites	2¾ ozs. in 10 gals. water	

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AZALEAS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Lace Bug, Leafminers, Mites, Tea Scale, Whiteflies	1 oz. in 10 gals. water	

BIRCH

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Leafminers	1 oz. in 10 gals. water	For leafminers, apply when leaves are expanded, about mid-May, and repeat in early July.

BOXWOOD

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Leafminers, Mealy Bug, Mites	1 oz. in 10 gals. water	For leafminers, apply in spring when leafminer flies first appear, or in early summer for control of larvae in the infested leaves.

CARNATIONS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Thrips, Mites	Soil drench: 1½ ozs. per 500 sq. ft. of bed or bench	Apply in sufficient water for even distribution. Water in thoroughly following application.

CAMELLIAS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Camellia Scale, Mites, Tea Scale	Foliar Spray: 1 ozs. in 10 gals. water Soil drench: 1½ ozs. in 1 gal. water	Apply 2 sprays 6 weeks apart the first year, followed by annual applications soon after first growth begins in the spring. For plants up to 6' tall, increase rate proportionately for larger plants. Apply as a soil drench around the base of plants in early spring.

CEDAR

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Mites	2¾ ozs. in 10 gals. water	

250 of 28

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CYPRESS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Bactra Moth Larvae	1 ozs. in 10 gals. water	Apply as a drenching spray.

DAYLILLIES

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Thrips	2¾ ozs. in 10 gals. water	

EUONYMUS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Scale	2¾ ozs. in 10 gals. water	

FICUS NITIDA

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Thrips	1 ozs. in 10 gals. water	

GARDENIAS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Tea Scale, Whitefly	1 ozs. in 10 gals. water	

GERBERAS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Thrips	1 ozs. in 10 gals. water	

GLADIOLUS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Thrips	1 ozs. in 10 gals. water	

HEMLOCK

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Mites, Scale	1 ozs. in 10 gals. water	

HOLLY (ENGLISH & AMERICAN) NOT BURFORD VARIETY

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Leafminers, Mites, Soft Scale	1 ozs. in 10 gals. water	For Leafminers, apply in spring when Leafminer Flies first appear, or in early summer, for control of larvae in infested leaves.

IRIS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Iris Borer, Thrips	2¾ ozs. in 10 gals. water	For Borer control, spray when new leaves are 5 to 6 inches tall.

JUNIPER

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Bagworms, Midges, Mites	2¾ ozs. in 10 gals. water	

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Revised Storage Disposal 11May2010

260028

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OAK

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Golden Oak Scale	2¾ ozs. in 10 gals. water	

POINSETTIA

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Mites, Whitefly, Mealybug, Aphids	1 ozs. in 10 gals. water	

ROSES

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Leafhoppers, Mites, Thrips	1 ozs. in 10 gals. water	

TAXUS (upright or spreading yew)

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Fletcher Scale, Mealybug, Mites	2¾ ozs. in 10 gals. water	

TREES

COTTONWOOD TREES GROWN FOR PULP

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Leaf Beetle	Use 17-25.6 fl. oz. in 10 gallons of water per acre by air 17-25.6 fl. oz. per acre by dripline (see chemigation section of this label)	Application may be repeated two more times (total of three applications). Do not apply more than three times per season.

Notes and Restrictions:

- Maximum application rate: 2 lbs a.i./A
- Maximum total rate per year: 6 lbs a.i./A
- The REI is 14 days; however, the REI is increased to 24 days in outdoor areas where the average annual rainfall is less than 25 inches per year.

DOUGLAS FIR SEED ORCHARDS AND BREEDING ORCHARDS

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Douglas Fir Seed and Cone Insects such as Contarinia, Megastigma, Dioryctria, Barbara, Henricus (midges, worms, moths, phaloniids)	Apply at least 5 qts., but not more than 6.6 qts. (6.2 - 8.3 lbs. a.i.), in 100 gallons of water by ground equipment.	Spray for thorough coverage of foliage and conelets. Application should be made after conelet closure and when cones are in the process of turning down. Repeat as necessary at the proper timing. Spray with caution, especially at higher rates for foliage (conifer needle) phytotoxicity is possible. Spraying should be under direct supervision of the Horticulturist in charge of the seed or breeding orchards. Seed should be used strictly for forest tree propagation or breeding purposes only. Otherwise, the seed shall be destroyed in an environmentally acceptable method.

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CHRISTMAS TREES

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Balsam Twig, Aphid, Blue Aphid, Bagworms, European Pine Shoot Moth, Mites, Nantucket Pine Tip Moth, Zimmerman Pine Moths	Use 2½ teaspoons in a backpack or handheld sprayer. Use 12.8-19.2 fl. oz. per acre in a minimum of 10 gallons by air application. Use 12.8-19.2 fl. oz. per acre in 30 to 50 gallons of water with a mist blower	
<p>Notes and Restrictions:</p> <ul style="list-style-type: none"> • Maximum application rate: 1 lb a.i./A • 14 day reapplication interval • Maximum total rate per year: 3 lbs a.i./A – When applications are made by high pressure handwand equipment, the maximum application rate for all crops and use-patterns is 0.0025 pounds active ingredient per gallon. • The REI is 10 days; however, the REI is increased to 14 days in outdoor areas where the average annual rainfall is less than 25 inches per year. 		

ORNAMENTAL SHADE AND NURSERY TREES

PESTS TO BE CONTROLLED	AMOUNT OF DIMETHOATE 5EC	DIRECTIONS FOR USE
Aphids, Elm Leaf Beetle	Soil injections: 2.8 mls. of product per inch of tree circumference measured at approximately 4.5 to 5 feet above ground level.	Application should be made once per growing season (twice per season for elm leaf beetles; once shortly after trees leaf out and once 6 to 8 weeks later). Some species such as River Birch, Prunus, Ornamental Cherry, Hawthorne, Japanese Lace Maple and Aspens may show phytotoxic effects at label rates. DO NOT USE ON BEARING FRUIT TREES. Use a Kioritz Injector with a 6-inch probe tip or similar type equipment capable of delivering metered dosage. A common household funnel should be used to fill the injector and chemical-resistant gloves (see Personal Protective Equipment section of this label) must be worn. Product should be inserted to a 4 to 6 inch level below ground surface. Injections should be distributed equally radially in the area around the tree trunk to drip line. Number of insertions should equal inches of tree circumference. Do not inject concentrate directly into live root tissue. Water heavily after injection. At least 2 inches of water is recommended.

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280428

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**CONDITIONS OF SALE - LIMITED WARRANTY
AND LIMITATIONS OF LIABILITY AND REMEDIES**

Read the Conditions of Sale - Warranty and Limitations of Liability and Remedies before using this product. If the terms are not acceptable, return the product, unopened, and the full purchase price will be refunded.

The directions on this label are believed to be reliable and should be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions or the failure to follow the label directions or good application practices, all of which are beyond the control of Helena Chemical Company (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. The Company makes no other warranties or representations of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

The exclusive remedy against the Company for any cause of action relating to the handling or use of this product shall be limited to, at Helena Chemical Company's election, one of the following:

1. Refund of the purchase price paid by buyer or user for product bought, or
2. Replacement of the product used

To the extent allowed by law, the Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income. The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.

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