

33657-21

1-23-2006

1/18

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



OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

JAN 23 2006

Mr. Ronald Landis, Ph.D.
Landis International
P.O. Box 5126
Valdosta, GA 31603-5126

Authorized agent for Mitsui Chemicals

Dear Mr. Landis:

Subject: Label amendment; add uses (fruiting vegetables, cucurbits, head and stem brassica, grapes, potatoes, and cotton)
Dinotefuran 10SL
EPA File Symbol 33657-21
Your submissions dated Feb. 22, 2005 and May 24, 2005

The amendment referred to above is acceptable in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 3(c)(7)(A), subject to the comments listed below:

1. Since residue data for cotton were submitted only for the 20% SG formulation, submit three side-by-side residue field trials on cotton as bridging data from SG to SL formulation. These data should be submitted within 18 months from the date of this letter.
2. Make the following label change:
 - a. Add resistance management statements on the front panel and in the directions for use, same as Dinotefuran 20SG.
 - b. On page 2, change the heading "PERSONAL PROTECTION EQUIPMENT" to "PERSONAL PROTECTIVE EQUIPMENT". In the second bullet under this heading, change "Waterproof gloves" to "Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride."

2 7 18

2

- c. On page 2, revise the Environmental Hazards statement to that indicated in the final printed label for Dinotefuran 20SG, EPA Registration Number 33657-17, submitted on June 17, 2005 to the Agency.
- d. On page 2, put the USER SAFETY RECOMMENDATIONS paragraph inside a box of solid line.
- e. Revise the chemigation statement according to PR Notice 87-1, and provide detailed instructions for drip/trickle irrigation

3. This amendment is subject to the time frames for submission of generic data for the active ingredient, as indicated in the Notice of Registration for Dinotefuran Technical, EPA Registration Number 33657-10, issued on September 17, 2004, and in the new use letter dated March 23, 2005 for Dinotefuran Technical, EPA Registration Number 33657-10.

4. Submit production information (gallons produced) for this product for the fiscal year in which these uses are conditionally registered, in accordance with FIFRA section 29. The fiscal year begins October 1, and ends September 30. The production information will be submitted to the Agency no later than November 15, following the end of the preceding fiscal year. This information should be submitted to:

Registration Support Branch
Registration Division (7505C)
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington D.C. 20460-0001

5. Submit two (2) copies of your final printed labeling before you release the product for shipment. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(a). A stamped copy of the label is enclosed for your records. If you have any questions, please do not hesitate to write or call me at (703) 308-8291.

Sincerely,



Rita Kumar
Senior Regulatory Specialist
Insecticide Rodenticide Branch
Registration Division (7505C)
e-mail: kumar.rita@epa.gov

Enclosure

2/18

DINOTEFURAN 10SL

For control of sucking and chewing insects infesting turfgrass, certain ornamentals, cotton, leafy vegetables, fruiting vegetables, cucurbits, potatoes, grapes and head and stem brassica.

For Greenhouse and Outdoor Use Only

Active Ingredient:

Dinotefuran*, N-methyl-N'-nitro-N'-[(tetrahydro-3-furanyl)methyl]guanidine	10%
Other Ingredients	90%
Total:	100%

*0.88 pounds Dinotefuran per gallon

KEEP OUT OF REACH OF CHILDREN
CAUTION
 See side panels for additional precautionary statements

FIRST AID	
If Swallowed	<ul style="list-style-type: none"> • Call poison control center or doctor for treatment advice. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Have person sip a glass of water if able to swallow. • Do not give anything by mouth to an unconscious person.
If In Eyes	<ul style="list-style-type: none"> • 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 further treatment advice.
In On Skin Or Clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for further treatment advice.
If Inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call poison control center or doctor for treatment advice.
HOT LINE NUMBER	
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact CHEMTREC (800) 424-9300 (24 hours) for emergency medical treatment information.</p>	
<p>See side/back panels for additional precautionary statements</p>	

EPA Reg No. 33657-21

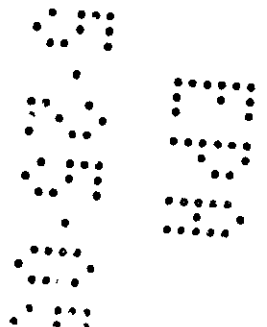
EPA Establishment No. _____

Net Contents:

Manufactured By:
MITSUI CHEMICALS, INC.
 Shiodome City Center
 1-5-2 Higashi-Shimbashi
 Minato-ku, Tokyo 105-7117
 JAPAN

ACCEPTED
 with COMMENTS
 In EPA Letter Dated
 JAN 23 2006

Under the Federal Insecticide,
 Fungicide, and Rodenticide Act,
 33657-21



4 8 18

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTION EQUIPMENT

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

USER SAFETY REQUIREMENTS

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to shrimp. 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 apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not dispose equipment washwaters or rinsate into a natural drain or water body.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

PHYSICAL OR CHEMICAL HAZARDS

Do not use, pour, spill or store near heat or open flame.

SPRAY DRIFT ADVISORY

Do not apply under conditions involving possible drift to food, forage or other plantings that might be damaged or the crop thereof rendered for sale, use or consumption.

5 7 18

DIRECTIONS FOR USE

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

READ ENTIRE LABEL, USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

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, greenhouses and handlers of agricultural insecticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

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
- Waterproof gloves
- Shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not allow others to enter treated areas until sprays have dried.

GENERAL INFORMATION

Failure to follow directions and precautions on this label may result in crop injury, poor insect control, and/or illegal residues.

For Outdoor and Greenhouse Use Only

For best performance, always follow these directions:

- Dinotefuran 10SL should be applied when insect pest populations begin to build, but before populations reach economically damaging levels. Economic thresholds for pests controlled by Dinotefuran 10SL may be available from your local agricultural authorities.
- Dinotefuran 10SL is a selective insecticide which should have minimal impact on beneficial arthropods and its use is compatible with integrated pest management (IPM) programs. However, Dinotefuran 10SL is toxic to bees exposed to direct treatment or to residue on blooming crops and weeds. Do not apply Dinotefuran 10SL or

DINOTEFURAN 10SL

-4-

allow it to drift onto blooming plants if bees are actively foraging in the treated area.

- Dinotefuran 10SL is rapidly taken up into foliage after application. However, thorough spray coverage is essential for optimal performance. Apply Dinotefuran 10SL in sufficient water to ensure good coverage.
- Dinotefuran 10SL may aid in the suppression of some pests. Suppression can mean either inconsistent control (good to poor), or consistent control at a level below that generally considered acceptable for commercial control.
- If the maximum season limit of Dinotefuran 10SL as defined in the "CROP USE DIRECTIONS" section of this label has been applied and pest populations require additional treatments, use another registered pesticide that is not in the neonicotinoid class or nitroguanidine subclass of chemistry.

Rotational Crops:

For all crops other than leafy vegetables, fruiting vegetables, cucurbits, potatoes, head and stem brassica vegetables, and grapes, a 120-day plant-back interval should be observed.

Application to Turfgrass:

- Dinotefuran 10SL can be used for the control of soil inhabiting pests of turfgrass such as Masked Chafers, European Chafer, Green June Beetle, May or June Beetle, Japanese Beetle, Oriental Beetle, Billbugs, Annual Bluegrass Weevil, Black Turfgrass Ataenius and Mole Crickets. Dinotefuran 10SL can also be used for the suppression of cutworms and chinchbugs in turfgrass areas.
- Dinotefuran 10SL can be used as directed on residential, recreational and commercial turfgrass in sites such as home lawns, commercial lawns, multi-family residential and apartment complexes, grounds or lawns around business and office complexes, shopping centers, airports, military and other institutions, cemeteries, golf courses, playgrounds, parks, athletic fields and sod farms.
- Timing of Dinotefuran 10SL applications should be targeted at or just prior to or during egg laying of the target pests. The need for an application can be based on historical and/or physical monitoring of the site, current season adult trapping, previous experience or other methods. Optimum control will be achieved when applications are made prior to or at egg hatch of the target pests followed by sufficient irrigation or rainfall to move the active ingredient through the turf thatch layer. Consult your local State Extension Service for more specific application timing recommendations.
- Applications should not be made when the target site is saturated with water. Adequate distribution of the active ingredient cannot be achieved when these conditions exist.

Application to Ornamental plants:

- Dinotefuran 10SL can be applied as a foliar spray or broadcast spray for insect control in ornamental plants in commercial or residential landscapes, greenhouses, nurseries and interior plantscapes.
- Dinotefuran 10SL is a systemic product and will be taken up by the root system and foliage and translocated upward throughout the plant. When applied as a foliar spray, the product offers locally systemic control of foliar pests.
- Application can be made by foliar sprays or soil applications, including soil injection, drenches, and broadcast foliar sprays.
- When applied as a soil injection or drench to plants with woody stems, systemic activity will be delayed until the product can be translocated throughout the plant. Make applications prior to buildup of the target pest.
- For outdoor and landscape ornamentals, broadcast applications cannot exceed a total of 78.9 fl oz of product (0.54 lb. active ingredient) per acre per year.

MIXING INSTRUCTIONS:

Dinotefuran 10SL Alone: Add ½ of the required amount of water to the mix tank. With the agitator running, add the desired amount of Dinotefuran 10SL to the tank. Continue agitation while adding the remainder of the water. Begin application of the solution after Dinotefuran 10SL has completely dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

Dinotefuran 10SL + Tank Mixtures: Add ½ of the required amount of water to the mix tank. Start the agitator running before adding any tank mix partners. In general, tank mix partners should be added in this order: products packaged in water-soluble packaging, wettable powders, wettable granules (dry flowables), liquid flowables, liquids,

7 7 18

emulsifiable concentrates, and surfactants/adjuvants. Always allow each tank mix partner to become fully dispersed before adding the next product. Provide sufficient agitation while adding the remainder of the water. Maintain agitation until all the mixture has been applied.

NOTE: When using Dinotefuran 10SL in tank mixtures, all products in water-soluble packaging should be added to the tank before any other tank mix partner, including Dinotefuran 10SL. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.

If using Dinotefuran 10SL in a tank mixture, observe all directions for use, crop/sites, use rates, dilution ratios, precautions, and limitations which appear on the tank mix product label. No label dosage rate should be exceeded, and the most restrictive label precautions and limitations should be followed. This product should not be mixed with any product which prohibits such mixing. Tank mixtures or other applications of products referenced on this label are permitted only in those states in which the referenced products are labeled.

Compatibility: NOTE - The crop safety of all potential tank mixes on all crops has not been tested. Before applying any tank mixture not specifically recommended on this label, the safety to the target crop should be confirmed.

Dinotefuran 10SL is compatible with most commonly used pesticides. However, since it is not possible to test all possible mixtures, the user should pre-test to assure the physical compatibility and lack of phytotoxic effect of any proposed mixtures with Dinotefuran 10SL. To determine the physical compatibility of Dinotefuran 10SL with other products, use a jar test, as described below:

Using a quart jar, add the proportionate amounts of the products to 1 quart of water. Add wettable powders and water-dispersible granular products first, then liquid flowables, and emulsifiable concentrates last. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure for additional required ingredients to the spray tank.

RESISTANCE MANAGEMENT

Dinotefuran 10SL belongs to the neonicotinoid class and nitroguanidine subclass of chemistry. Pests which are resistant to insecticides in other chemical classes are not known to be cross-resistant to Dinotefuran 10SL. However, repeated use of the same class of insecticides with similar modes of action can lead to the buildup of resistant pests. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area. In addition, to optimize resistance management practices, no more than 3 applications of Dinotefuran 10SL per growing season is allowed. Dinotefuran, however, may be used in alternation with other materials possessing dissimilar modes of action and/or with other chemical classes of insecticides. Follow local, state, and federal IPM and Insect Resistance Management (IRM) recommendations. Read and follow all product labels before applying any insecticide.

APPLICATION PROCEDURES AND SPRAY EQUIPMENT

Ground Application: Spray nozzles should be selected which will provide accurate and uniform spray deposition. Use spray nozzles which provide medium-sized droplets and reduce drift. To help insure accuracy, calibrate sprayer before each use. For information on spray equipment and calibration, consult nozzle manufacturers and/or State Extension Service specialists.

Apply Dinotefuran 10SL using sufficient water volume to provide thorough and uniform coverage. In situations where a dense canopy exists and/or pest pressure is high, use greater water volumes. The use of a spray adjuvant may improve spray coverage. Avoid making applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

Aerial Application: Apply Dinotefuran 10SL in water, using the minimum spray volume indicated in the "Remarks" section of each crop, but not less than 2 gals./A. Increase spray volume where practical to improve

8 7 18

DINOTEFURAN 10SL

-6-

coverage. Avoid making application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

Chemigation: Dinotefuran 10SL may be applied through drip or trickle irrigation where so noted in the soil application of each crop, but should NOT be applied through center-pivot or solid set irrigation.

Applications to turfgrass: Apply Dinotefuran 10SL through conventional spray equipment in a minimum of 1 gallon of finished spray per 1000 sq. ft. Ensure adequate distribution in the treated area using accurately calibrated equipment normally used for application of turfgrass insecticides. Use equipment which will produce a uniform, coarse droplet spray, using a low pressure setting to eliminate off target drift. Check calibration periodically to ensure that equipment is working properly. Avoid skips by using marker dyes or foam aids.

Applications to ornamental plants: DINOTEFURAN 10SL can be applied using many different types of application equipment. Apply in sufficient water to ensure good coverage of ornamental plants. When making applications to plants with hard to wet foliage such as holly or pine, the addition of a spreader/sticker is recommended. If concentrate or mist type spray equipment is used, an equivalent amount of product should be used on the spray area as would be used in a dilute solution. To assure optimum effectiveness, the product must be placed where the growing portion of the target plant can absorb the active ingredient. Applications can be made to foliage or as a soil drench.

RECOMMENDATIONS TO AVOID SPRAY DRIFT

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making decisions. Where states have more stringent regulations, they should be observed. Follow these recommendations to avoid spray drift:

- Make applications when wind velocity favors on-target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 10 mph. Avoid applications when wind gusts approach 10 mph.
- Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.
- Do not cultivate or plant crops within 25 feet of the aquatic area as to allow growth of a vegetative filter strip.
- Do not make applications during temperature inversions. Inversions are characterized by stable air and increasing temperatures with increased height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.
- Use the largest droplet size consistent with good pest control. Small droplets are more prone to spray drift and can 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.
- Apply as close to target plants as practical to obtain a good spray pattern for adequate coverage. Applications more than 10 ft. above the crop canopy should be avoided.
- 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 wing span or rotor diameter.

Air Assisted (Air Blast) Tree and Vine Sprayers (Grapes, Potato and Ornamentals Only): Air assisted tree and vine sprayers carry droplets into the canopy of trees and vines via a radially or laterally directed air stream. In addition to the general drift management principles already described, the following specific practices will further reduce the potential for drift:

9 8 18

- Adjust deflectors and aiming devices so that spray is only directed into the canopy.
- Block off upward pointed nozzles when there is no overhanging canopy.
- Use only enough air volume to penetrate the canopy and provide good coverage. Use a minimum of 50 gallons finished spray per acre.
- Use only enough air volume to penetrate the canopy and provide good coverage.
- Do not allow spray to go beyond the edge of the cultivated area. Spray the outside row only from outside the planting.

Cotton

Crop	Pest	Product Rate / Acre Per Application	Remarks
Cotton	Cotton aphid, Sweetpotato whitefly, Silverleaf whitefly, Banded wing whitefly, Plant bug, Leathoppers, Thrips	6.5 - 19.5 fl oz/A (0.045 - 0.134 lb ai/A)	<p>Foliar Application: Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals./acre by air or 10 to 50 gals./acre by ground).</p> <p>Higher water volumes provide improved insect control.</p> <p>Begin applications when first pest activity is noticed or when insects reach threshold levels per University/Extension recommendations and repeat as needed to maintain control, but not more often than every 7 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p>
<p>Dinotefuran 10SL may be mixed and/or alternated with commonly used insecticides to comply with local IPM and Resistance Management programs.</p> <p>Do not apply within 14 days of harvest</p> <p>Do not apply more than a total of 39.0 fl oz of DINOTEFURAN 10SL (0.268 lb. ai) per acre per season as foliar sprays.</p>			

10 7 18

Head & Stem Brassica

Crop	Pest	Product Rate/ Acre Per Application	Remarks
Broccoli, Brussels sprouts, Cabbage, Cauliflower, Cavalo broccolo, Chinese broccoli, Chinese cabbage, Chinese mustard cabbage, Kohlrabi	Green peach aphids, Cabbage aphids, Leafminers, Whiteflies	<p>FOLIAR: 6.5 - 26.0 fl oz/A (0.045 - 0.179 lb ai/A)</p> <p>OR</p> <p>SOIL: 33.0 - 39.0 fl oz/A (0.226 - 0.268 lb ai/A)</p>	<p>Foliar Application: Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals./acre by air or 20 to 40 gals./acre by ground).</p> <p>Soil Application: See conversion chart for linear application plant application rates.</p> <p>Higher water volumes provide improved insect control.</p> <p>Begin applications when first pest activity is noticed or when insects reach threshold levels per University/Extension recommendations and repeat as needed to maintain control, but not more often than every 7 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p> <p>Do not apply to vegetables grown for seed.</p>

Soil Application

Apply specified dosage in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods:

- (1) In a narrow band centered on the plant row in the bedding operation just prior to planting. For best results band width should be 2" or less and placed 1 to 2" below the seed depth.
- (2) In-furrow spray at or below seed level or a narrow surface band above the seedline during planting. For surface-banded applications incorporate to a depth of 1-1/2" with sufficient irrigation within 24 hours to insure satisfactory insect control.
- (3) As a post-seeding drench, transplant drench or hill drench. Applications should be made with sufficient water to insure incorporation into the root zone.
- (4) As a sidedress after plants are established. Applications should be placed within 2 to 4" to the side of each row and incorporated 1 or more inches deep. Applications should be made to each row if there are two rows per bed.
- (5) In drip or trickle irrigation water.

The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.

Dinotefuran 10SL may be mixed and/or alternated with commonly used insecticides to comply with local IPM and Resistance Management programs.

For foliar applications, do not apply within 1 day of harvest. For soil applications, do not apply within 21 days of harvest.

Do not apply more than a total of 39.0 fl oz of DINOTEFURAN 10SL (0.268 lb. ai) per acre per season as foliar sprays. Do not apply more than a total of 78.0 fl oz of DINOTEFURAN 10SL (0.536 lb. ai) per acre per season as soil applications.

Do not combine foliar applications with soil applications, or vice versa. Only use one application method.

11 7 18

Cucurbits

Crop	Pest	Product Rate / Acre Per Application	Remarks
<p>Balsam pear (bitter melon), Calabaza, Chayote (fruit), Chinese okra, Chinese waxgourd, Citron melon, Cucumber, Gherkin, Gourds, Edible melons including hybrids (including cantaloupe, casaba, Chinese preserving melon, crenshaw, honeydew melons, honey balls, mango melon, muskmelon, Persian melon, winter melon), Pumpkin, Squash (including summer, winter acorn, spaghetti), Watermelon including hybrids</p>	<p>Melon aphid, Green peach aphid, Thrips, Leafhoppers, Leafminers, Whiteflies</p>	<p>FOLIAR: 6.5 - 26.0 fl oz/A (0.045 - 0.179 lb ai/A)</p> <p>OR</p> <p>SOIL: 33.0 - 39.0 fl oz/A (0.226 - 0.268 lb ai/A)</p>	<p>Foliar Application: Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals./acre by air or 20 to 40 gals./acre by ground).</p> <p>Soil Application: See conversion chart for linear application plant application rates.</p> <p>Higher water volumes provide improved insect control.</p> <p>Begin applications when first pest activity is noticed or when insects reach threshold levels per University/Extension recommendations and repeat as needed to maintain control, but not more often than every 7 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p> <p>Do not apply to vegetables grown for seed.</p>
<p>Soil Application</p> <p>Apply specified dosage in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods:</p> <ol style="list-style-type: none"> (1) In a narrow band centered on the plant row in the bedding operation just prior to planting. For best results band width should be 2" or less and placed 1 to 2" below the seed depth. (2) In-furrow spray at or below seed level or a narrow surface band above the seedline during planting. For surface-banded applications incorporate to a depth of 1-1/2" with sufficient irrigation within 24 hours to insure satisfactory insect control. (3) As a post-seeding drench, transplant drench or hill drench. Applications should be made with sufficient water to insure incorporation into the root zone. (4) As a sidedress after plants are established. Applications should be placed within 2 to 4" to the side of each row and incorporated 1 or more inches deep. Applications should be made to each row if there are two rows per bed. (5) In drip or trickle irrigation water. <p>The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.</p> <p>Dinotefuran 10SL may be mixed and/or alternated with commonly used insecticides to comply with local IPM and Resistance Management programs.</p> <p>For foliar applications, do not apply within 1 day of harvest. For soil applications, do not apply within 21 days of harvest. Do not apply more than a total of 39.0 fl oz of DINOTEFURAN 10SL (0.268 lb. ai) per acre per season as foliar sprays. Do not apply more than a total of 78.0 fl oz of DINOTEFURAN 10SL (0.536 lb. ai) per acre per season as soil applications.</p> <p>Do not combine foliar applications with soil applications, or vice versa. Only use one application method.</p>			

12 7 18

Fruiting Vegetables

Crop	Pest	Product Rate/ Acre Per Application	Remarks
Eggplant, Ground Cherry, Pepinos, Pepper (including bell peppers, chili peppers, cooking peppers, pimentos and sweet peppers), Tomatillo. Tomato (Do not apply to varieties of tomatoes which are less than 2 inches in size, such as cherry and grape tomatoes)	Green peach aphid, Potato aphid, Colorado potato beetle, Flea beetles, Leafhoppers, Leafminers Thrips, Whiteflies	FOLIAR: 6.5 - 26.0 fl oz/A (0.045 - 0.179 lb ai/A) OR SOIL: 33.0 - 39.0 fl oz/A (0.226 - 0.268 lb ai/A)	<p>Foliar Application: Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals./acre by air or 20 to 40 gals./acre by ground).</p> <p>Soil Application: See conversion chart for linear application plant application rates.</p> <p>Higher water volumes provide improved insect control.</p> <p>Begin applications when first pest activity is noticed or when insects reach threshold levels per University/Extension recommendations and repeat as needed to maintain control, but not more often than every 7 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p> <p>Do not apply to vegetables grown for seed.</p>

Soil Application

Apply specified dosage in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods:

- (1) In a narrow band centered on the plant row in the bedding operation just prior to planting. For best results band width should be 2" or less and placed 1 to 2" below the seed depth.
- (2) In-furrow spray at or below seed level or a narrow surface band above the seedline during planting. For surface-banded applications incorporate to a depth of 1-1/2" with sufficient irrigation within 24 hours to insure satisfactory insect control.
- (3) As a post-seeding drench, transplant drench or hill drench. Applications should be made with sufficient water to insure incorporation into the root zone.
- (4) As a sidedress after plants are established. Applications should be placed within 2 to 4" to the side of each row and incorporated 1 or more inches deep. Applications should be made to each row if there are two rows per bed.
- (5) In drip or trickle irrigation water.

The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.

Dinotefuran 10SL may be mixed and/or alternated with commonly used insecticides to comply with local IPM and Resistance Management programs.

For foliar applications, do not apply within 1 day of harvest. For soil applications, do not apply within 21 days of harvest.

Do not apply more than a total of 39.0 fl oz of DINOTEFURAN 10SL (0.268 lb. ai) per acre per season as foliar sprays. Do not apply more than a total of 78.0 fl oz of DINOTEFURAN 10SL (0.536 lb. ai) per acre per season as soil applications.

Do not combine foliar applications with soil applications, or vice versa. Only use one application method.

Grapes

Crop	Pest	Product Rate/ Acre Per Application	Remarks
Grapes	Grape mealybug, Leafhoppers, Thrips, Glassy-wing sharpshooter	<p>FOLIAR: 6.5 - 19 fl oz/A (0.045 - 0.132 lb ai/A)</p> <p>SOIL: 33.0 - 39.0 fl oz/A (0.226 - 0.268 lb ai/A)</p>	<p>Foliar Application: Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals./acre by air or 10 to 50 gals./acre by ground). Use a minimum of 50 gallons finished spray per acre for air blast application.</p> <p>Higher water volumes provide improved insect control.</p> <p>Begin foliar applications when first pest activity is noticed or when insects reach threshold levels per University/Extension recommendations and repeat as needed to maintain control, but not more often than every 14 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p>
<p>Soil Application Apply specified dosage in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods: (1) In drip or trickle irrigation water.</p> <p>The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.</p> <p>Dinotefuran 10SL may be mixed and/or alternated with commonly used insecticides to comply with local IPM and Resistance Management programs.</p> <p>Make only one soil application.</p> <p>For foliar applications, do not apply within 1 day of harvest. For soil application, apply once prior to foliar applications as directed above. do not apply within 28 days of harvest.</p> <p>Do not apply more than a total of 39.0 38.6 fl oz of DINOTEFURAN 10SL (0.268 0.264 lb. ai) per acre per season as foliar sprays. Do not apply more than a total of 38.6 39.0 fl oz of DINOTEFURAN 10SL (0.264 0.268 lb. ai) per acre per season as soil applications.</p> <p>NOTE: Regardless of application method do not apply more than a total of 77.3 fl oz of DINOTEFURAN 10SL (0.529 lb. ai) per acre per season.</p>			

14 7 18

Leafy Vegetables

Crop	Pest	Product Rate/ Acre Per Application	Remarks
Leafy Vegetables (includes: Amaranth, Arugula, Cardoon, Celery, Chinese Celery, Celtuce, Chervil, Edible-leaved & Garland Chrysanthemum, Corn Salad, Garden & Upland Cress, Dandelion, Dock, Endive, Florence Fennel, Head & Leaf Lettuce, Orach, Parsley, Garden & Winter Purslane, Radicchio, Rhubarb, Spinach, New Zealand & Vine Spinach, Swiss Chard)	Potato aphid, Green peach aphid, Sweetpotato whitefly, Silverleaf whitefly, Banded wing whitefly, Leafhopper, Leafminer	FOLIAR: 6.5 - 19.5 fl oz/A (0.045 - 0.134 lb ai/A) OR SOIL: 33.0 - 39.0 fl oz/A (0.226 - 0.268 lb ai/A)	<p>Foliar Application: Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals./acre by air or 20 to 40 gals./acre by ground).</p> <p>Soil Application: See conversion chart for linear application to plant application rates.</p> <p>Higher water volumes provide improved insect control.</p> <p>Begin applications when first pest activity is noticed or when insects reach threshold levels per University/Extension recommendations and repeat as needed to maintain control, but not more often than every 7 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p> <p>Do not apply to vegetables grown for seed.</p>

Soil Application

Apply specified dosage in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods:

- (1) In a narrow band centered on the plant row in the bedding operation just prior to planting. For best results band width should be 2" or less and placed 1 to 2" below the seed depth.
- (2) In-furrow spray at or below seed level or a narrow surface band above the seedline during planting. For surface-banded applications incorporate to a depth of 1-1/2" with sufficient irrigation within 24 hours to insure satisfactory insect control.
- (3) As a post-seeding drench, transplant drench or hill drench. Applications should be made with sufficient water to insure incorporation into the root zone.
- (4) As a sidedress after plants are established. Applications should be placed within 2 to 4" to the side of each row and incorporated 1 or more inches deep. Applications should be made to each row if there are two rows per bed.
- (5) In drip or trickle irrigation water.

The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.

Dinotefuran 10SL may be mixed and/or alternated with commonly used insecticides to comply with local IPM and Resistance Management programs.

For foliar applications, do not apply within 7 days of harvest. For soil applications, do not apply within 21 days of harvest.

Do not apply more than a total of 39.0 fl oz of DINOTEFURAN 10SL (0.268 lb. ai) per acre per season as foliar sprays. Do not apply more than a total of 78.0 fl oz of DINOTEFURAN 10SL (0.536 lb. ai) per acre per season as soil applications.

Do not combine foliar applications with soil applications, or vice versa. Only use one application method.

15 7 18

Potato

Crop	Pest	Product Rate/ Acre Per Application	Remarks
Potato	Green peach aphids, Potato aphids, Colorado potato beetle, Flea beetles, Potato leafhopper, Psyllids	<p>FOLIAR: 7.5 - 9.5 fl oz/A 0.050 - 0.066 lb ai/A</p> <p>SOIL: 41.0 - 48.0 fl oz/A 0.28 - 0.33 lb ai/A</p>	<p>Foliar Application: Apply with air or ground equipment in adequate water for uniform coverage (3 to 10 gals./acre by air or 10 to 50 gals./acre by ground). Use a minimum of 50 gallons finished spray per acre for air blast application.</p> <p>Soil Application: See conversion chart for linear application plant application rates.</p> <p>Higher water volumes provide improved insect control.</p> <p>Begin foliar applications when first pest activity is noticed or when insects reach threshold levels per University/Extension recommendations and repeat as needed to maintain control, but not more often than every 14 days. For best results, time application before a damaging population becomes established.</p> <p>Under severe pest pressure, use the higher recommended rates.</p>

Soil Application

Apply specified dosage in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods:

- (1) In a narrow band centered on the plant row in the bedding operation just prior to planting.
- (2) In-furrow spray at planting. Direct spray in the furrow on the seed pieces or potatoes.
- (3) As a sidedress to both sides of the row or as a spray at ground crack directly over the row during hilling. Cover immediately with soil.

The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.

Dinotefuran 10SL may be mixed and/or alternated with commonly used insecticides to comply with local IPM and Resistance Management programs.

For foliar applications, do not apply within 7 days of harvest. For soil applications, apply once at pre-plant, pre-emergence, or at ground crack as directed above.

Do not apply more than a total of 28.5 fl oz of DINOTEFURAN 10SL (0.198 lb. ai) per acre per season as foliar sprays. Do not apply more than a total of 48.0 fl oz of DINOTEFURAN 10SL (0.33 lb. ai) per acre per season as soil applications.

NOTE: Regardless of application method do not apply more than a total of 77.3 fl oz of DINOTEFURAN 10SL (0.529 lb. ai) per acre per season.

16 7 18

ORNAMENTAL PLANTS

For insect control in ornamental plants grown in commercial, industrial, and residential areas, and outdoor nursery and greenhouse ornamental production.

Crop	Pest	Product Rate	Remarks
Ornamental plants including: Shrubs Ornamentals Flowering Plants Foliage Plants Ground Covers Evergreens Ornamental Trees Non-Bearing Fruit Trees Non-Bearing Nut Trees Non-Bearing Vines	Adelgids Aphids Japanese beetles (adults) Lacebugs Leaf beetles Leafhoppers Leafminers Mealybugs Sawfly larvae Thrips (suppression) Whiteflies Giant whitefly Greenhouse whitefly Silverleaf whitefly	Foliar Spray 8 fl oz to 16 fl oz per 100 gallons	For foliar insect control on ornamental plants. Start treatment prior to buildup of high pest populations. Foliar Spray: 100 gals. of spray mix will treat 20,000 sq. ft. of area.
	Aphids Whiteflies Giant whitefly Greenhouse whitefly Silverleaf whitefly	Drench 38 fl oz to 78 fl oz per 100 gallons	Drench: Apply 4 fl oz. of finished solution per 6" pot.

Important Notes:

- Apply in sufficient water to ensure thorough coverage of target area. Use a minimum of 50 gallons finished spray per acre.
- Do not apply more than a total of 39.0 fl oz of DINOTEFURAN 10SL (0.268 lb. ai) per acre per season as foliar sprays.

17 7 18

TURFGRASS

Crop	Pest	Product Rate	Remarks
Turfgrasses Residential Recreational Commercial	Mole cricket Southern mole cricket Tawny mole cricket	78.9 fl oz/A	Make application prior to or during the peak egg hatch period. When adults or large nymphs are present and actively tunneling, application should be accompanied by a curative insecticide such as Orthene® Turf, Tree & Ornamental Spray.
	White grub larvae such as: Annual bluegrass weevil Asiatic garden beetle Billbug Black Turfgrass atenius European chafer Green June beetle Japanese beetle May/June beetle Northern masked chafer Oriental beetle Southern masked chafer	78.9 fl oz/A	For optimum control of grubs, billbugs, and annual bluegrass weevil, make application prior to or during egg hatch of the target pest.
	Suppression of: Cutworms Chinchbug	78.9 fl oz/A	For suppression of chinchbugs, make application prior to hatching of the first instar nymphs.

Important Notes:

- Apply in sufficient water to ensure thorough coverage of target area. Use a minimum of 50 gallons finished spray per acre.
- Consult your local State Extension Service or State Extension Turfgrass Specialists for more specific information on timing of insecticide applications.
- For optimal control, irrigation or rainfall should occur within 24 hours after application to ensure movement of the active ingredient through the thatch.
- Avoid mowing turf or lawn grass until after sufficient irrigation or rainfall has occurred so that uniformity of application will not be affected.
- Make only one application.
- Do not apply more than a total of 78.9 fl oz of DINOTEFURAN 10SL (0.54 lbs. ai) per acre per year.

18 7 18

Conversion Chart for Linear Application								
Row width	Fluid Ounces Product / 1000 Row Feet							
	20"	24"	28"	30"	32"	34"	36"	40"
F1 oz/A								
33.0	1.2	1.5	1.7	1.9	2.0	2.1	2.2	2.5
35.0	1.3	1.6	1.8	2.0	2.1	2.2	2.4	2.6
37.0	1.4	1.7	2.0	2.1	2.2	2.4	2.5	2.8
39.0	1.5	1.8	2.1	2.2	2.3	2.5	2.6	2.9
41.0	1.6	1.9	2.2	2.3	2.5	2.7	2.8	3.1
43.0	1.6	2.0	2.3	2.5	2.6	2.8	3.0	3.3
45.0	1.7	2.1	2.4	2.6	2.8	2.9	3.1	3.4
47.0	1.8	2.1	2.5	2.7	2.9	3.1	3.2	3.6
48.0	1.8	2.2	2.6	2.8	2.9	3.1	3.3	3.7

STORAGE AND DISPOSAL

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

Storage: Store in a cool dry place.

Pesticide Disposal: Do not contaminate water, food or feed by storage or disposal. Pesticide wastes may be toxic. Improper disposal of unused pesticide, spray mixture or rinse water is a violation of federal law. If these wastes cannot be used 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 in proper disposal methods.

Container Disposal:

If empty: Do not reuse this container. Place in trash or offer for recycling if available.

If partly filled: Call your local solid waste agency or 1-800-CLEANUP for disposal instructions. Never place unused product down any indoor or outdoor drain.

CONDITIONS OF SALE

MITSUI CHEMICALS, INC., warrants that this product in its unopened package conforms to the chemical description on the label and is reasonably fit for the purposes set forth on the label when used according to directions under normal use conditions to the crops specified. There are no other warranties, expressed or implied, concerning the use of this product other than indicated on the label. This warranty does not extend to the handling or use of this product contrary to label instructions or under abnormal conditions or conditions not reasonably foreseeable to seller, and buyer assumes all risk of any such use.