

400-422

11/29/2002

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

NOV 29 2002

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Willard F. Cummings
c/o Betsy Katzman
Crompton Manufacturing Company, Inc.
74 Amity Road
Bethany, CT 06524-3402

Subject: Terrazole 4EC
EPA Reg. No. 400-422
Your Submission dated July 25, 2002

Dear Mr. Cummings:

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted provided the following change is made:

Add "protective eyewear" to the personal protective equipment for "All other mixer, loaders, applicators and other handlers".

A stamped copy of the label is enclosed for your files. You must submit one copy of the final printed label prior to releasing the product for shipment.

If you have questions about this letter, please contact Summer Gardner-Jenkins of my staff at (703) 308-9353.

Sincerely,

A handwritten signature in cursive script that reads "Mary L. Waller".

Mary L. Waller
Product Manager 21
Fungicide Branch
Registration Division (7505C)

Enclosure: stamped label

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Terrazole® 4EC

Cotton, Tobacco & Ornamental Fungicide

Net Contents:

Active Ingredient: (% by weight)
 Etridiazole [5-Ethoxy-3-(trichloromethyl)-1,2,4-thiadiazole]* 44.3%
 Inert Ingredients:** 55.7%
 Total: 100.0%
 *Contains 4 lbs. of 5-Ethoxy-3-(trichloromethyl)-1,2,4-thiadiazole per U.S. Gallon at 20° C.
 **Contains Petroleum Distillates

**KEEP OUT OF REACH OF CHILDREN
DANGER • PELIGRO**

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

First Aid, Precautionary Statements and Directions for Use are in the attached booklet. If booklet is missing, contact Crompton or an authorized dealer.

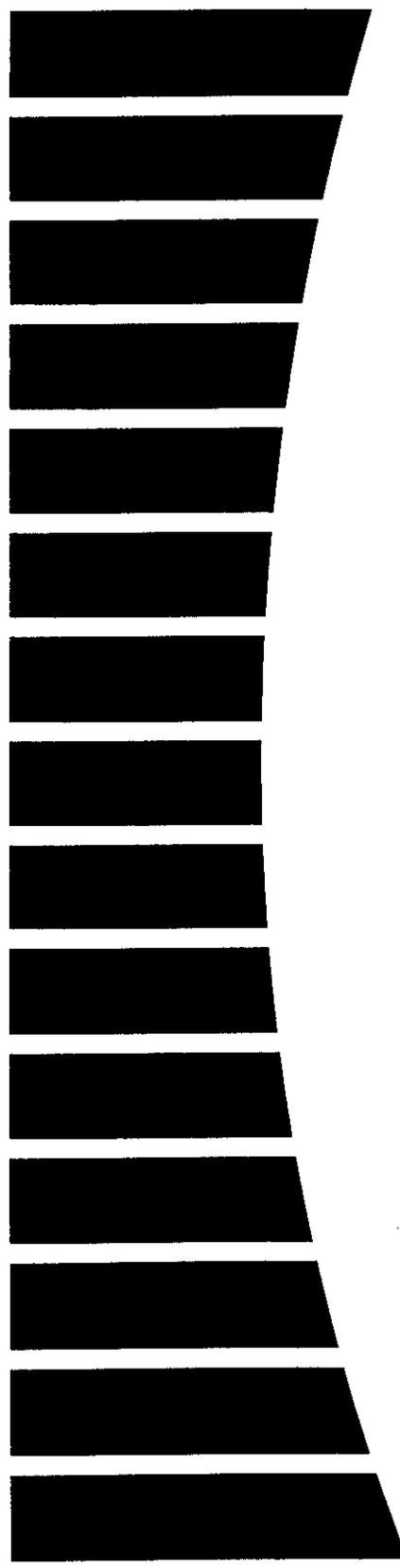
**ACCEPTED
with COMMENTS
In EPA Letter Dated
NOV 29 2002**

**Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
400-422**

EPA REG. NO. 400-422
EPA EST NO.
012
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Middlebury, CT 06749
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FIRST AID

- IF IN EYES**
 - Hold eye open and rinse slowly and gently with water for 15 to 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**
 - Immediately call a poison control center or doctor.
 - Do not induce vomiting unless told to do so by the poison control center or doctor.
 - Do not give any liquid to the person.
 - Do not give anything by mouth to an unconscious person.
- IF ON SKIN OR ON CLOTHING**
 - Take off contaminated clothing.
 - Rinse skin immediately with plenty of water for 15 to 20 minutes.
 - Call a poison control center or doctor for treatment advice.
- IF INHALED**
 - Move person to fresh air.
 - 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.

EMERGENCY ASSISTANCE

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

NOTE TO PHYSICIAN

Probable mucosal damage may contraindicate the use of gastric lavage. Contains petroleum distillate - vomiting may cause aspiration pneumonia.

CROMPTON EMERGENCY PHONE	203-723-3670
SAFETY DATA AND INFORMATION	203-573-3303
TRANSPORTATION EMERGENCY (CHEMTREC)	800-424-9300

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER**

Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Harmful if swallowed, absorbed through skin or inhaled. Avoid contact with skin. Avoid breathing vapors.

PERSONAL PROTECTIVE EQUIPMENT

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

Mixers, loaders and applicators participating in high-pressure handwand sprayer applications must wear: Coveralls over long-sleeved shirt and long pants; chemical-resistant gloves such as barrier laminate or viton; chemical-resistant footwear plus socks; protective eyewear; chemical-resistant headgear for overhead applications; NIOSH approved respirator with an organic-vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G) or a NIOSH approved respirator with an OV cartridge or canister with an N², R, P or HE prefilter, chemical-resistant apron when mixing, loading or cleaning equipment.

All other mixer, loaders, applicators and other handlers must wear: Long-sleeved shirt and long pants; chemical-resistant gloves such as barrier laminate or viton; shoes plus socks; NIOSH approved respirator (except for applicators applying in-furrow to cotton) with an organic-vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G) or a NIOSH approved respirator with an OV cartridge or canister with and N², R, P or HE prefilter, chemical-resistant apron when mixing, loading or cleaning equipment.

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

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(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

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Surface Water Advisory: Etridiazole can contaminate surface water through spray drift. Under some conditions, etridiazole may have a high potential for runoff into surface water for several weeks postapplication. These conditions include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with infield canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain surface water.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

Do not apply this product to cotton or ornamentals through any type of irrigation system.

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. Do not allow this product to drift. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

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

INDOOR RESTRICTIONS: Entry (including early entry that would otherwise be permitted under the WPS) into greenhouses, potting sheds, and other indoor areas by any person - other than a correctly trained applicator who is performing a handling task permitted by the WPS and who is wearing the required handler PPE including a respirator - is PROHIBITED in the entire enclosed structure/building from the start of application until application is complete and one of the following ventilation criteria (providing outside air) is met: (1) 10 air exchanges; (2) 2 hours of fans or other mechanical ventilation providing outside air; (3) 4 hours of vents, windows, or other passive ventilation; (4) 11 hours with no ventilation followed by 1 hour of mechanical ventilation; (5) 11 hours of no ventilation followed by 2 hours of passive ventilation; or (6) 24 hours with no ventilation. After ventilation criteria are met and until the REI expires, do not enter or allow worker entry into treated areas, except as provided in the WPS. Note: after the expiration of the REI whenever Terrazole-treated soil or planting media is being handled or disturbed indoors, continuous ventilation of the area is required at a minimum rate of one complete air exchange per hour.

Exception: if the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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
- chemical-resistant gloves such as barrier laminate or viton or made out of any waterproof material
- shoes plus socks
- protective eyewear

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Terrazole is useful as a soil fungicide for control of damping-off, root and stem diseases caused by *Pythium* and *Phytophthora*. Use only at recommended rates as overdosage may be harmful to sensitive plants. Do not mix with chemicals, other than Terraclor® unless prior use has proven compatibility.

ORNAMENTALS

For bedding and bench plantings use with water as a soil drench at time of seeding and transplanting. For use in commercial nurseries and greenhouses only. Use in residential greenhouses or other indoor plant sites is prohibited. The drench solution should be continually agitated to assure uniform application of the fungicidal material. To improve penetration of the fungicide, the drenching must be followed with an equal quantity of water applied either by sprinkling or by irrigation.

TANK MIXTURE COMPATIBILITY

Combinations of Terrazole 4EC with fungicides, insecticides, plant growth regulators or fertilizers should be checked for compatibility before tank mixing. Use a jar test to mix the recommended proportions of each product in a volume of water which is proportionate to the expected field use rate. The mix is considered compatible if it remains stable or can be easily reconstituted by shaking after standing for 5 minutes.

BEDDING PLANTS				BEDDING PLANTS: (Soil 2" to 3" Deep) -Add 3 to 4 fl. ozs. to 100 gallons of water and apply to 400 sq. ft. of bed area. Repeat application may be made at one to two month intervals, if necessary.
Alyssum	Dahlia	Petunia	Vinca	
Calendula	Dianthus	Phlox	Zinnia	TROPICAL FOLIAGE, HERBACEOUS and WOODY PLANTS: (Peat and other high organic media 6" deep). Bed and Bench Plantings: Add 2 to 4 fl. ozs. in 100 gallons of water and apply to 400 sq. ft. of bed or bench area. Repeat application at two to three month intervals to maintain disease control. Pot Plantings: Use ½ pint solution per 6" pot or in sufficient amount to saturate the soil.
Celosia	Larkspur	Salvia		
Chrysanthemum	Marigold	Snapdragon		
Coleus	Pansies	Verbena		
FOLIAGE PLANTS				
Aglaonema	Chinese Evergreen	Maranta	Stromanthe	
Anthurium	Crassula	Nephrolepis	Zygocactus	
Cactus	Dieffenbachia	Nephtytis		
Caladium	Gynura	Peperomia		
Calathea	Hedera	Pilea		
Chamadorea	Hoya	Pothos		
HERBACEOUS AND WOODY PLANTS				
African Violet	Easter Lily	Gerbera	Poinsettia	
Azalea	Euonymus	Juniper	Red Pine	
Boxwood	Ficus	Kalanchoe	Rhododendron	
Chrysanthemum	Geranium	Pieris	Sinningia	

COTTON

Control Water Mold seed decay (pre-emergence damping off) caused by *Pythium* spp.

Soil In-Furrow Application

At planting time use 4 to 8 fl. oz. per acre (per 13,000 linear feet based on 40 inch rows) mixed with 5 to 15 gallons of water.

Apply the specified dosage to the soil around the seed and to the covering soil as it fills the furrow. The soil around the seed and the covering soil should be thoroughly mixed with the product. Two nozzles work best; center the front nozzle over the open furrow to spray the soil around the seed and the rear nozzle to spray the covering soil as it fills the furrow.

The higher rates should be used when weather conditions are expected to be unfavorable for rapid germination, fields have a history of disease problems or minimum or low till programs are utilized.

For broader spectrum seedling disease control, Terrazole 4EC can be mixed with Terraclor® 2E or other products registered as in-furrow fungicides to control *Rhizoctonia*. See tank mixture compatibility comments.

When Terrazole 4EC is applied with other products, observe all precautions and restrictions that appear on the labels.

Caution Statements

Do not allow the feeding or grazing of cotton foliage by livestock. Apply only at planting time.

TOBACCO

FOR PYTHIUM ROOT ROT CONTROL IN TOBACCO TRANSPLANT FLOAT-BEDS

(GREENHOUSE OR OUTDOOR FLOAT-BED SYSTEMS)

As a **preventative** treatment before symptoms occur, mix 1 fl. oz. of TERRAZOLE 4EC per 100 gallons of float-bed water no sooner than **two** weeks after seeding. Sequential preventative applications at 0.9 fl. oz. per 100 gallons of water can be made at a 3-week interval for a maximum of three applications per season. Do not apply TERRAZOLE 4EC later than 8 weeks after seeding.

As a **curative** treatment when disease symptoms first appear, mix 1.4 fl. oz. of TERRAZOLE 4EC per 100 gallons of float-bed water no sooner than **three** weeks after seeding and when leaves are at least 1 in. diameter. If *Pythium* disease symptoms recur after the first application, a second application of 1 to 1.4 fl. oz. per 100 gallons of water can be made. Allow at least a 3-week interval between the first and second applications. Do not apply TERRAZOLE 4EC later than 8 weeks after seeding.

No more than 2.8 fl. oz. per 100 gallons of water of TERRAZOLE 4EC may

be applied to each crop of transplants (from seeding to transplanting in the field) regardless of how many times plants are moved to different float-beds. Care should be taken when moving plants to new locations to avoid treating a second time at an interval of less than two weeks as phytotoxicity could occur.

It is essential that TERRAZOLE 4EC be evenly distributed throughout the float-bed water. The TERRAZOLE 4EC needed to treat a float-bed or given area should first be mixed with water in a container, such as 5-gallon buckets or larger containers to form a dilute emulsion. This dilute emulsion should then be added uniformly at several locations to the pool (bay) of float water and thoroughly mixed into the water to achieve uniform TERRAZOLE 4EC rates throughout the whole float-bed.

Only apply this product to pools (bays) of water being used in the tobacco float-bed system. Do not apply this product through any other type of irrigation system or to tobacco transplants produced in any other manner including traditional ground plant beds. Application through overhead irrigation or drenching can result in crop injury.

TERRAZOLE 4EC aids in the control of algae in float-beds. Presence of algae interferes with greenhouse operations and competes for oxygen and nutrients with transplants. In addition, presence of algae promotes the incidence of shoreflies which can carry inoculum of *Pythium* and spread disease.

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 County Agricultural Extension Agents, equipment manufacturers or other knowledgeable experts.

Injury expressed as temporary stunting and leaf bleaching has been observed in tobacco transplants with the use of TERRAZOLE in float-beds. Because of the potential for phytotoxicity, the user must assume responsibility for any plant injury, including stunting and loss of transplants, that may occur as a result of this use of TERRAZOLE 4EC.

PPE Requirements: For use in tobacco float-beds, application is continuous from the time this product is diluted and trays or plant materials are immersed in the float-beds through the time the trays or plant materials are removed from the float-beds and replanted. During the entire application period, any person who contacts the float-bed, the diluted pesticide solution, treated trays, or treated plant materials is defined as a handler under the Worker Protection Standard and must be trained as a handler and wear the PPE required for handlers.

The 12-hour REI begins once the float-bed water is treated in the greenhouse or outdoor float-bed systems.

Disposal of Treated Float Water: At the conclusion of transplant production, allow the TERRAZOLE 4EC to dissipate from the water through a 3-day evaporation period. During that time all trays will be removed from the pool (bay) of water, ventilation will be maximized by uncovering outdoor float-beds when not raining and opening all greenhouse ventilators. Afterwards, use the remaining water for transplanting tobacco into the field or permit treated float-bed water to evaporate.

Float Bed Liner Disposal: Puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Note: Keep people, pets and wildlife away from treated float-beds after tobacco transplants have been removed, or, until water and plastic liners have been disposed of.

USE DIRECTIONS FOR CHEMIGATION:

In addition to the above use rates and recommendations, the following precautions must be observed when using this product in any type of irrigation system:

Apply this product only through the following systems:

- 1) Pressurized drench (flood) or drip (trickle) systems, 2) Micro-irrigation such as spaghetti-tube or individual tube irrigation, 3) Hand-held calibrated irrigation equipment such as the hand-held wand with injector, 4) Ebb and flow systems.

Do not apply this product through any other type of irrigation system. The Terrazole mixture should be continually agitated to assure uniform application of the fungicide material. To improve penetration of the fungicide, the drenching must be followed with an additional quantity of water equal to at least half the volume of the fungicidal drench, applied either by sprinkling or irrigation.

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

If you have any 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.

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.

POSTING OF TREATED AREAS

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes or any public areas such as schools, parks, playgrounds or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive area. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other locations affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to event deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters at least 2 1/2 inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days 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 systems 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 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, or in cases where there is no water pump, when the water pressure decreases to the point where the 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.

STORAGE AND DISPOSAL

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

STORAGE: Store in a dry location.

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

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

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

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