

ACCEPTED

MAR 5 1997

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
FA Reg. No. 67760-27

**RESTRICTED USE PESTICIDE  
DUE TO ACUTE TOXICITY TO AVIAN AND AQUATIC  
ORGANISM**

For retail sale to and use only by Certified Applicators or persons  
under their direct supervision and only for those uses covered by the  
Certified Applicator's certification.



INSECTICIDE

**NUFOS™ 4E-SG**

For distribution and use only in Arizona, California, Colorado,  
Idaho, Kansas, Montana, Nebraska, New Mexico, Nevada,  
Oklahoma, Oregon, South Dakota, Texas, Utah, Washington and  
Wyoming.



For control of aphids, including Russian wheat aphid, grasshoppers,  
wheat midge, brown wheat mite, and cutworms infesting wheat.

**ACTIVE INGREDIENT:**

Chlorpyrifos: O,O-diethyl O-(3,5,6-trichloro-2-pyridinyl) phosphorothioate..... 44.2%

**INERT INGREDIENTS**..... 55.8%

**TOTAL:**..... 100.0%

This product contains 4 pounds of Chlorpyrifos per gallon. Contains aromatic petroleum distillates.

**KEEP OUT OF REACH OF CHILDREN**

**WARNING**

**AVISO**

**AL USUARIO:** Si usted no entiende la etiqueta, busque a alguien para que se la explique a Usted en detalle  
(**TO THE USER:** If you do not understand the label, find someone to explain it to you in detail)

May be fatal if swallowed • Causes substantial but temporary eye injury or skin irritation • Harmful if  
absorbed through skin • Do not get in eyes, on skin, or on clothing

**IN CASE OF MEDICAL EMERGENCY, CALL TOLL FREE, DAY OR NIGHT, AREA CODE 800-228-5635, Ext. 153**

**FIRST AID**

**FIRST AID:** In case of poisoning, call a physician or Poison Control Center immediately. Have person lie down  
and keep quiet.

**IF SWALLOWED:** Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce  
vomiting by touching back of throat with finger (be aware that product contains aromatic petroleum distillates).  
If person is unconscious, do not give anything by mouth and do not induce vomiting.

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

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

**NOTE TO PHYSICIAN:** This product is a cholinesterase inhibitor. Treat symptomatically. Atropine is an  
antidote.

**SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS**

EPA Reg. No.: 67760 -27

Net Contents: \_\_\_\_\_

EPA Est. No.: 4787-DN-1



1700 Route 23, Suite 210  
Wayne, NJ 07470

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See product booklet for complete Directions for Use

#### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

#### PRECAUTIONARY STATEMENTS

Hazards To Humans And Domestic Animals  
Keep Out Of Reach Of Children

#### WARNING

May be fatal if swallowed • Causes substantial but temporary eye injury or skin irritation • Harmful if absorbed through skin • Do not get in eyes, on skin, or on clothing

#### 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 G on an EPA chemical resistance category selections chart.

Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants
- Socks
- Chemical-resistant footwear
- Chemical-resistant (such as nitrile, butyl, barrier laminate or Viton) gloves
- Protective eyewear such as goggles and face shield.
- Overhead exposure: Wear Chemical-resistant headgear.

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- Mixers/Loaders: Wear a chemical-resistant apron
- For Cleaning Equipment: Add a chemical-resistant apron.

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/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

- 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.

### FIRST AID

#### Organophosphorus pesticide

In case of poisoning, call a physician or Poison Control Center immediately. Have person lie down and keep quiet.

**If swallowed:** Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger (be aware that product contains aromatic petroleum distillates). If person is unconscious, do not give anything by mouth and do not induce vomiting.

**If on skin:** Wash with plenty of soap and water. Get medical attention.

**If in eyes:** Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

**Note to physician:** Chlorpyrifos is a cholinesterase inhibitor affecting the central and peripheral nervous systems and producing cardiac and respiratory depression. **Antidote:** Administer atropine sulphate in large doses. TWO to FOUR mg intravenously or intramuscularly as soon as cyanosis is overcome. Repeat at 5 to 10 minute intervals until signs of atropinization appear. 2-PAM chloride is a pharmacological antidote and may be administered as an adjunct to, but not a substitute for atropine, which is a symptomatic and often lifesaving antidote. **DO NOT GIVE MORPHINE OR TRANQUILLIZERS.** At first sign of pulmonary edema, the patient should be given supplemental oxygen and treated symptomatically. Continued absorption of Chlorpyrifos may occur and relapse may occur after initial improvement; **VERY CLOSE SUPERVISION OF THE PATIENT IS INDICATED FOR AT LEAST 48 HOURS.**

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds and wildlife, and extremely toxic to fish and aquatic organisms. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites. Cover or incorporate spills. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters. 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. Protective information may be obtained from your cooperative agricultural extension service.

### PHYSICAL OR CHEMICAL HAZARDS

Refer to additional precautionary information elsewhere on this label including Personal Protective Equipment (PPE) and Directions for Use including Agricultural Use Requirements and Storage and Disposal.

### DIRECTIONS FOR USE

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

Read all Directions for Use carefully before applying.

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.

This product cannot be reformulated or repackaged into other end-use products.

### 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 within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170).

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

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, wear:

- Coveralls over short-sleeved shirt and short pants
- Socks
- Chemical-resistant footwear
- Chemical-resistant (such as nitrile, butyl, barrier laminate or Viton) gloves
- Protective eyewear such as goggles and face shield.
- Overhead exposure: Wear Chemical-resistant headgear.

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## STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store in original container in secured dry storage area. Protect against strong heat from sunshine or other source. Prevent cross-contamination with other pesticides and fertilizers. Do not store above 100°F for extended periods of time. Storage below 20°F may result in formation of crystals. If product crystallizes, store at 50 to 70°F and agitate to redissolve crystals. If container is damaged or if the pesticide is leaking or has been spilled, use product immediately or dispose of product and damaged container as indicated below.

**Pesticide Disposal:** Open dumping is prohibited. Pesticide wastes are toxic. 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 for Refillable Containers:** Follow instructions provided with or on the container. Call Cheminova Customer Service at 1-800-548-6113 for additional information. If the container has been damaged and cannot be returned according to the recommended procedures contact Cheminova Customer Service to obtain proper handling instructions.

**Container Disposal for Non-Refillable Containers:** 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, or:

Triple rinse (or equivalent). Then puncture and dispose in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## GENERAL INFORMATION

NUFOS™ 4E-SG insecticide forms an emulsion when diluted with water and is suitable for use in all conventional spray equipment. Consult your state experiment station or state extension service for proper timing of applications.

## MIXING DIRECTIONS

To prepare the spray, add a portion of the required amount of water to the spray tank and with agitation add the NUFOS 4E-SG. Complete filling the tank with the balance of water needed. Maintain sufficient agitation during both mixing and application to ensure uniformity of the spray mixture.

NUFOS 4E-SG may also be used in tank mixtures with certain herbicides and/or with non-pressure fertilizer solutions as recommended under specific crop use directions. Prepare tank mixtures in the same manner as recommended above for use of NUFOS 4E-SG alone. When tank mixtures of NUFOS 4E-SG and herbicides are involved, add wettable powders first, flowables second, and emulsifiable concentrates last.

Where a fertilizer solution is involved, it is strongly recommended that a fertilizer pesticide compatibility agent such as Unite or Compex be used. Maintain constant agitation during both mixing and application to ensure uniformity of the spray mixture. Do not allow spray mixtures to stand overnight.

Note: Test compatibility of the intended tank mixture before adding NUFOS™ 4E-SG to the spray or mix tank. Add proportionate amounts of each ingredient to a pint or quart jar, cap, shake, and let set 15 minutes. Formation of precipitates that do not readily redisperse indicates an incompatible mixture that should not be used.

### **SPRINKLER IRRIGATION Special Use Directions**

The following use directions are to be followed when NUFOS 4E-SG is applied through sprinkler irrigation systems. Thoroughly clean the injection system and tank of any fertilizer or chemical residues, and dispose of the residues according to state and federal laws. Flush the injector with soap and water. Determine the amount of insecticide needed to cover the desired acreage. Pump the required CHA 7110 4ESG into a steel tank, start mechanical or hydraulic agitation, and add in order the non-emulsifiable oil and/or water. Continually agitate the mixture containing NUFOS 4E-SG. Set the sprinkler system to deliver the desired inches of water per acre. Start the water pump and sprinkler, and let the system achieve the desired pressure and speed before starting the injector. Start the injector and calibrate the injector system according to number 14 in "Special Use Precautions". The mixture containing NUFOS 4E-SG must be injected continuously and uniformly into the irrigation water line as the sprinkler is moving. This procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

### **SPECIAL USE PRECAUTIONS**

The following use precautions will result in a safe and successful application of mixtures containing NUFOS 4E-SG.

1. Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, micro sprinkler, or hand move. Do not apply this product through any other type of irrigation system.
2. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.
3. If you have questions about calibration, you should contact state extension service specialists, equipment manufacturers or other experts.
4. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

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5. 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.
6. 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. Refer to the American Society of Agricultural Engineer's Engineering Practice 409 for more information.
7. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
8. 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.
9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
10. 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.
11. 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. The metering pump must provide a greater pressure than that of the irrigation system at the point of injection. The pump must meet Section 675 for "Electrically Driven or Controlled Irrigation Machines" NEC 70 and must contain Viton or Teflon seals.
12. To insure uniform mixing of the insecticide into the water line, inject the mixture through a nozzle placed in the fertilizer injection port or just ahead of an elbow or tee in the irrigation line so that the turbulence created at those points will assist in mixing. It is suggested that the injection point be higher than the insecticide tank to prevent siphoning.
13. The steel tank holding the insecticide mixture should be large enough to allow the system to complete a revolution with one filling. It should be free of rust, fertilizer, sediment, and foreign material, and equipped with an in-line strainer situated between the tank and the injector pump.
14. In order to calibrate the irrigation system and injector to apply the mixture containing NUFOS 4E-SG, determine the following: 1) Calculate the number of acres irrigated by the system, 2) Set the irrigation rate and determine the number of minutes for the system to cover the intended treatment area, 3) Calculate the total gallons of insecticide mixture needed to cover the desired acreage. Divide the total gallons of insecticide mixture needed by the number of minutes to cover the treatment area. This value equals the gallons per minute output that the injector must deliver. Convert the gallons per minute to milliliters or ounces per minute. Calibrate the injector pump with the system in operation at the desired

- irrigation rate. It is suggested that the injector pump be calibrated at least twice before operation, and the system should be monitored during operation.
- 15. Do not apply when wind speed favors drift beyond the area intended for treatment. End guns must be turned off during the application, if they irrigate nontarget areas.
- 16. Do not allow irrigation water to collect or runoff and pose a hazard to livestock, wells, or adjoining crops.
- 17. Allow foliage to dry before reentering the field.
- 18. Do not apply through sprinkler systems which deliver a low coefficient of uniformity such as certain water drive units.

### APPROVED CROPS

#### WHEAT

#### USE AND DOSAGE RECOMMENDATIONS

Apply NUFOS™ 4E-SG at the rate of 1/2 to 1 pint per acre (0.25 to 0.5 lb ai/acre) to control aphids (including Russian wheat aphid) brown wheat mite or grasshoppers.

For control of wheat midge, use 1 pint of NUFOS 4E-SG per acre. Treatment is recommended when 75% of the wheat heads have emerged from the boot and when midge adults are found in the crop (1 midge per 4-5 heads). Application timing is critical to ensure good control. If possible, apply in the late afternoon or early evening when temperatures exceed 50°F and wind speed is less than 7 mph.

For control of army cutworms and suppression of other cutworm species, use 1 pint of NUFOS 4E-SG per acre. Control may be reduced under high temperature conditions (greater than 80°F), under dry soil conditions, or if larvae are more than 1/2 inch long. Treat when field counts or crop injury indicates that damaging pest populations are developing or present. A second application of 1 pint/acre may be made for additional control.

Mix the required dosage with water and apply in a minimum of 2 gallons per acre finished spray volume. Apply using aerial (fixed wing or helicopter) or power-operated ground spray equipment. NUFOS 4E-SG may also be applied through sprinkler-irrigation systems.

Report any bird or fish kills which may be associated with the use of Chlorpyrifos by calling toll free 1-800-548-6113.

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## RESTRICTIONS

- Do not make more than two applications per crop.
- Do not apply within 28 days of harvest.
- Do not allow livestock to graze or otherwise feed treated forage to livestock within 14 days of application
- Do not feed straw from treated wheat within 28 days of application.
- Do not apply directly to bodies of water.
- Do not apply product where runoff is likely to occur to aquatic habitats (including lakes, public reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries or other natural waters).
- Do not apply when weather conditions favor drift or runoff from treated areas.

## GROUND APPLICATION

- For ground applications, the distance from treated areas to aquatic habitats (including lakes, public reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries or other natural waters) must be 30 feet or more.
- Do not make ground applications if wind speed is greater than 15 mph.
- Do not apply at spray boom pressures greater than 45 psi.

## AERIAL APPLICATION

- Do not apply by air within 300 feet of aquatic habitats (including lakes, public reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries or other natural waters).
- Do not make aerial applications of NUFOS 4E-SG when wind speeds exceed 10 mph or when an atmospheric temperature inversion exists.
- Boom length should not exceed 75% of the wing span and release height for aerial applications should be no greater than 10 feet above the crop canopy.

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## WARRANTY DISCLAIMER

Cheminova warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. CHEMINOVA MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

## INHERENT RISKS OF USE

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Cheminova or the seller. All such risks shall be assumed by Buyer.

## LIMITATION OF REMEDIES

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Cheminova's election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

Cheminova shall not be liable for losses or damages resulting from handling or use of this product unless Cheminova is promptly notified of such loss or damage in writing. In no case shall Cheminova be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Cheminova or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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