



U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505C)
401 "M" St., S.W.
Washington, D C 20460

EPA Reg Number
33658-3

Date of Issuance
FEB 27 1997

NOTICE OF PESTICIDE:
 Registration
 Reregistration

Term of Issuance. Until
Reregistration

Name of Pesticide Product.
Gharda
Chlorpyrifos 4E-SG

(under FIFRA as amended)

Name and Address of Registrant (include ZIP Code)

Gharda Chemicals Limited
48, Hill Road
Bandra (West)
Bombay 400 050
India

Note Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator on his motion may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.
2. Change the label by revising the EPA Registration Number to read, "EPA Reg. No. 33658-3."
3. Generate storage stability data as required by 40 CFR Part 158. The data must be maintained for submission to the Agency upon request.

Signature of Approving Official.

/s/

Dennis H. Edwards, Jr.
Product Manager (19)
Insecticide-Rodenticide Branch
Registration Division (7505C)

Date.

FEB 27 1997

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4. Submit two copies of the revised final printed label for the record.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely yours,

/s/
Dennis H. Edwards, Jr.
Product Manager (19)
Insecticide-Rodenticide Branch
Registration Division (7505C)

RESTRICTED USE PESTICIDE
 DUE TO ACUTE TOXICITY TO AVIAN AND AQUATIC ORGANISMS
 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.

**GHARDA
 CHLORPYRIFOS 4E-SG
 INSECTICIDE**

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 42.0%
 Inert Ingredients: 58.0%
 Total 100.0%
 Contains 4 pounds of chlorpyrifos per gallon.

KEEP OUT OF REACH OF CHILDREN

WARNING AVISO

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

STATEMENT OF PRACTICAL TREATMENT

Organophosphate

If swallowed: Call a physician or Poison Control Center immediately.
 Do not induce vomiting. Contains aromatic petroleum solvent. Do
 not give anything by mouth to an unconscious person.
 If in eyes: Flush with plenty of water for at least 15 minutes. Get
 medical attention.
 If on skin: Wash with plenty of soap and water. Get medical
 attention.
 If inhaled: Remove to fresh air if symptoms of cholinesterase
 inhibition appear and get medical attention immediately.
 Note to physician: Chlorpyrifos is a cholinesterase inhibitor. Treat
 symptomatically. If exposed, plasma and red blood cell
 cholinesterase tests may indicate significance of exposure (baseline
 data are useful). Atropine, only by injection, is the preferable
 antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if
 used early; however, use only in conjunction with atropine. In case
 of severe acute poisoning, use antidote immediately after establishing
 an open airway and respiration.

ACCEPTED
 with COMMENTS
 in EPA Letter Dated [unclear] [unclear] Chemicals Limited

MFG. BY:
 EPA Establishment No.: 33658-IND-001
 EPA Registration No.: 33658-(To Be Assigned)
 Net Contents: FEB 27 1997

Under the Federal Insecticide,
 Fungicide, and Rodenticide Act
 as amended, for the pesticide
 registered under EPA Reg. No.
 33658-3

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

WARNING AVISO

May Be Fatal If Swallowed • Harmful If Absorbed Through The Skin
 Causes Moderate Eye and Skin Irritation • Prolonged or Frequently
 Repeated Skin Contact May Cause Allergic Reactions In Some
 Individuals

Avoid breathing vapor or spray mist. 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
 - Chemical-resistant gloves such as Barrier Laminate or Viton
 - Chemical-resistant shoes plus socks
 - Protective eyewear
 - Chemical-resistant headgear for overhead exposure
 - Chemical-resistant apron when cleaning equipment and mixing or loading.

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

- 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 birds and wildlife, and extremely toxic to
 fish and aquatic organisms. Do not apply directly to water. 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 waste.
 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

Do not use or store near heat or open flame.

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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

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

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.

Agriculture 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 entry into treated areas during the restricted entry interval (REI) of 24 hours.

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

- Coveralls over short-sleeved shirt and short pants
- Chemical resistant gloves such as Barrier Laminata or Viton
- Chemical resistant shoes plus socks
- Protective eyewear
- Chemical resistant headgear for overhead exposure

STORAGE AND DISPOSAL

Storage: Store in original container in secured dry storage area. 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 spill occurs, use product immediately or dispose of product and damaged container as indicated below.

Pesticide Disposal: Do not contaminate water, food, or feed by storage or 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: Replace the dry disconnect cap if applicable and seal all openings which have been opened during use.

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

Gharda 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 Gharda 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.

Gharda 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 Gharda 4E SG alone. When tank mixtures of Gharda 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 Gharda 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 redispense indicates an incompatible mixture that should not be used.

Sprinkler Irrigation

Special Use Directions

The following use directions are to be followed when Gharda 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 Gharda 4E SG 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 Gharda 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 Gharda 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 Gharda 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.
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 Agricultural Engineers Engineering Practice 409 for more information.
7. The pesticide injection pipeline must also 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 pesticides 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 ensure 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 Gharda 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 Gharda 4E SG at the rate of 1/2 to 1 pint per acre (0.25 to 0.5 lb/a/acre) to control aphids (including Russian wheat aphid), brown wheat mite, or grasshoppers.

For control of wheat midge, use 1 pint of Gharda 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 speeds less than 7 mph.

For control of army cutworms and suppression of other cutworm

species use 1 pint of Gharda 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. Gharda 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 (phone number to be assigned at final printing).

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 on treated forage 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 Gharda 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.

Notice of Warranty and Disclaimer

Seller warrants that at the time of delivery the product in this container conforms to its chemical description contained hereon and is reasonably fit for its intended purpose under normal conditions of use. This is the only warranty made on this product. Seller expressly disclaims any implied warranties of merchantability or fitness for any particular purpose and except as set forth above, any other express or implied warranties. Any damages arising from breach of warranty or negligence shall be limited to direct damages not exceeding the purchase price paid for this product by Buyer and shall not include incidental or consequential damages such as, but not limited to, loss of profits or values. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials or the manner of use or application, all of which are beyond the control of the Seller. In no case shall Seller be liable for the consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the Buyer. Buyer acknowledges the use of its own independent skill and expertise in the selection and use of the product and does not rely on any oral or written statements or representations.