

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

08/01/2002

WASHINGTON, D.C. 20460

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OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

Ms. M. Sam Boudurant Dir. Reg. Affairs RiceCo LLC, Inc. 5100 Popular Avenue, Suite 2428 Memphis, Tenn. 38137

Dear Ms. Boudurant:

Subject: Label Amendment Duet EPA Reg. 71085-9 Your Submission dated May 15,2002

The Labeling referred to above submitted in connection with the application under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable providing the following changes are made:

* Under Swath Adjustment, change " Downward, to Downwind".

A stamped copy of the of the revised label is inclosed for your records.

Submit one (1) copy of your final printed labeling before you release the product for shipment.

Sincerel Jamès∕A Tompkins Product Manager 25 Merbicide Branch Registration Division (7505C)





ACCEPTED with COMMENTS In EPA Letter Dated

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Under the Federal Insecticide, Fundicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 1085-9

Herbicide For Postemergence Control of Broadleaf, Grass, and Sedge Weeds in Rice Fields

Active Ingredient:41.20%3', 4' -- Dichloropropionanilide41.20%Methyl 2-[[[[((4, 6-dimethoxy-2-pyrimidinyl)amino]carbonyl]amino]sulfonyl]methyl]benzoate0.32%Inert Ingredients:58.48%TOTAL100.00%

This product contains 4 lbs. of 3', 4'-Dichloropropionanilide and 14 grams of Methyl 2-[[[[(4, 6-dimethoxy-2pyrimidinyl)amino]carbonyl]amino]sulfonyl]methyl]benzoate per gallon of formulated product.

EPA Registration No. 71085-9

EPA Establishment No.62171-MS-1

KEEP OUT OF REACH OF CHILDREN

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

CAUTION FIRST AID	
If on Skin or 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.
lf in Eyes:	 Hold eye open and rinse slowly and gently with clean water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If Swallowed:	 Call a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water, if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor Do not give anything by mouth to an unconscious person.

AGRICULTURAL CHEMICAL DO NOT SHIP OR STORE WITH FOOD, FEEDS, DRUGS, OR CLOTHING. FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE, CALL 1-800-F-A-S-T-M-E-D (327-8633) FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure or accident, call CHEMTREC at 1-800-424-9300 Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

NET CONTENTS: 30 GALS.

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PRECAUTIONARY STATEMENTS HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed, absorbed through skin or inhaled. Causes eye irritation. Avoid breathing spray mist. Avoid contact with skin, eyes, or clothing. This product may cause an allergic skin reaction. In case of contact, immediately flush eyes or skin with plenty of water. Remove contaminated clothing and wash clothing before reuse. Get medical attention if irritation persists.

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 A on an EPA material category selection chart. Applicators and other handlers must wear:

Long-sleeved shirt and long pants

- Chemical resistant gloves, such as polyethylene or polyvinyl chloride ->14 mil
- Shoes plus socks
- Chemical-resistant headgear for overhead exposure

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.

ENGINEERING CONTROL STATEMENTS:

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) (4-6)], 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 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

For terrestrial uses, 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 disposing of equipment washwaters. This product is toxic to fish. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water intended for irrigation or domestic purposes. Do not apply when weather conditions favor drift from target area.

DIRECTIONS FOR USE

It is a violation of Federal law to use this production a manner inconsistent with its labeling. 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, 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 and 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 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

- Chemical resistant gloves such as polyethylene or polyvinyl chloride -> 14 mil

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- Shoes plus socks

- Chemical-resistant headgear for overhead exposure

STORAGE AND DISPOSAL

STORAGE: Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Do not store this product near fertilizers, seeds, insecticides, or fungicides. Containers should not be stacked more than 3 containers high. Reclose all partially used containers by thoroughly tightening screw cap. Damaged or leaking containers that contain product that cannot be used immediately should be transferred to suitable sound containers and properly marked. Any spilled material should be thoroughly absorbed with a suitable absorbent, swept up and transferred to a new or waste container for disposal as indicated under "Pesticide Disposal'.

For safety and prevention of unauthorized use, all pesticides should be stored in locked facilities. To prevent accidental misuse, different pesticides should be stored in separate areas with enough distance between to provide clear identification.

Opened, partially used pesticides should be stored in original containers when possible. When transfer to another container is necessary because of leakage or damage, carefully mark and identify contents of the new container. Keep containers closed when not in use.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray, mixture, or rinsate is a violation of Federal law. Wastes resulting from the use of this product may be disposed of at an approved waste disposal facility. 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: Triple rinse (or equivalent), adding rinsate to spray tank. Offer rinsed containers for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WHERE TO USE

RiceCo's DUET[®] is used for postemergence control of broadleaf, grass, and sedge weeds in RICE fields.

WEEDS CONTROLLED

Annual arrowhead, barnyardgrass (watergrass), blunt spikerush, brachiaris (signalgrass), cocklebur, coffeeweed, crabgrass, crotorr, curly indigo, dayflower, ducksalad, eclipta, eisen waterhyssop, falsepimpernel, foxtail, goosegrass, gooseweed, gulf cockspur, hemp sesbania, mexicanweed, millet (Texas), morning-glory, mud plantain, paragrass, Pennsylvania smartweed, pickerelweed, pigweed, purple ammannia, redstem, rice flatsedge, roughseed bulrush, smallflower umbrella plant, sourdock, southern naiad, spearhead, Texasweed, water plantain, waterwort, wiregrass, yellow nutsedge. (DUET will not control bermudagrass, cattail, johnsongrass, red rice and sprangletop).

NOTE: Resistant biotypes are known to exist in California, including California Arrowhead, Purple Ammannia, Redstem, Ricefield buirush and Smallflower umbrella plant. **DUET** may not control these biotypes. Accurate records should be kept of the pesticides applied to individual fields to obtain information regarding the spread and dispersal of the resistant biotypes. Consult your Ag dealer, consultant, applicator, and/or your State Agricultural Extension Service for specific alternative herbicide recommendations available in your area.

GENERAL INFORMATION

Several important factors should be taken into account to achieve a high efficiency of selective weed control with **DUET**. These include uniform application, growth stage, water management and weather conditions. To assure uniform application, mix the prescribed amount of **DUET** with a sufficient volume of water to provide thorough coverage of target area. For aerial applications use approximately 10 gallons of

water, or for surface (ground) applications 20-30 gallons of water per acre at sufficient spray pressure. Agitate tank mixes thoroughly and continuously. Avoid over and under application.

Growth stage of weeds is very important. Best results for selective weed control are obtained when most grasses have reached the 1 to 3-leaf stage.

A static flood should be placed on treated fields approximately 48 hours following application for optimum weed control results. See 'Application Timing' for additional information concerning flooding.

Proper field preparation is essential to ascertain a relatively clod free and level surface and to obtain uniform flood levels and growth. Fields may be flushed prior to treatment to produce uniform and vigorous grass germination and growth. Drain water from fields prior to applying **DUET**. Higher rates are recommended to control larger grasses or exposed weeds when rice fields are not completely drained. Inspect rice fields regularly to select the correct application time.

DO NOT apply this product through any type of irrigation system.

DO NOT apply more than 8 quarts of **DUET** per growing season.

DO NOT apply **DUET** within 14 days before or after carbamate or organophosate insecticide applications. Serious injury to rice may occur.

DO NOT apply to fields where commercial catfish or crayfish (crawfish) farming is practiced and **DO NOT** drain water from treated fields into areas where catfish or crayfish (crawfish) farming is practiced.

DO NOT apply this product (directly or indirectly) to any crop except rice but **DO NOT** use on wild rice (Zizania spp.).

DO NOT use on lawns, walks, driveways, tennis courts or similar areas.

DO NOT apply when wind conditions will allow drift to adjacent, susceptible crops such as beans, soybeans, cotton, safflower, cucurbits, vegetables, orchards (such as almonds, **plums** and grapes) and other sensitive crops.

DO NOT graze treated fields or feed treated forage within 80 days of the last application.

DO NOT apply within 80 days of harvest.

DO NOT rotate to crops other than rice for 120 days following application.

WEATHER CONDITIONS:

<u>Temperature</u>: Temperatures at and before application affect product activity in controlling target weeds. Applications should be made when daily maximum temperatures are between 75°F and 100°F. Control decreases with temperatures below 75°F and increases with temperatures above 75°F.

<u>Application Timing:</u> DUET normally requires 8 hours of DIRECT sunlight after application for absorption into target weeds; however, many atmospheric and environmental conditions can affect absorption into the target weeds. It is highly recommended that application of **DUET** be planned so that the applied product remains in contact with the leaf surfaces for at least 48 hours prior to rainfall or flooding. Historically, morning applications of Propanil products, including **DUET**, have produced better results in weed control.

<u>Relative Humidity</u>: DUET is a contact herbicide; therefore, herbicidal activity is affected by humidity. High humidity and dew aid in weed control by allowing the product to remain in solution longer on the leaf surface. Low humidity decreases plant activity and thus reduces product absorption. During periods of very low humidity, higher spray volumes, 12-15 gallons per acre, should be used when applied aerially.

Soil Moisture: Under dry conditions grass and broadleaf weeds are less susceptible to control. Higher rates of product, 4 to 6 quarts per acre, should be used to achieve control.

<u>Wind:</u> Although **DUET** is less susceptible to drift than solvent-based Propanil products, application should be avoided if wind velocity is high enough to cause drift of the application spray off the target site or irregular spray patterns.

ADJUVANTS AND APPLICATION AIDS:

When **DUET** is used alone (not in combination with any other postemergent rice herbicide), a low viscosity crop oil concentrate or surfactant may be used to improve wetting of foliage and increase weed control. Use of a crop oil concentrate is recommended when application is made during cool weather conditions or unstable weather conditions that may produce rain. Under adverse weather conditions, the addition of a crop oil concentrate when tank mixing **DUET** and other rice herbicides for application should

be considered. Consult product labels for adjuvant recommendations. The use of a suitable crop oil concentrate or surfactant does not significantly increase injury to rice (leaftip burn)

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering these factors when making application decisions. The distance from the outer most nozzles to the boom must not exceed 34 the length of the wingspan or rotor. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

IMPORTANCE OF DROPLET SIZE: The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control.

Applications of **DUET** must conform to the conditions set forth in the current CA propanil regulations (3CCR 6462). **Aerial Applications**: Each operating nozzle shall produce a droplet size, in accordance with the manufacturer's specifications, not less than 700 microns volume median diameter (Dv.5) with 10 percent of the diameter by volume (Dv0.1) not less than 200 microns. **Ground Applications**: Each operating nozzle shall produce a droplet size, in accordance with manufacturer's specifications, not less than 200 microns. **Ground Applications**: Each operating nozzle shall produce a droplet size, in accordance with manufacturer's specifications, not less than 500 microns volume median diameter (Dv0.5) with 10 percent of the diameter by volume (Dv0.1) not less than 200 microns.

The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying large droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions. (See Wind, Temperature and Humidity, and Surface Temperature Inversions sections of this label.)

CONTROLLING DROPLET SIZE

Volume: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

Pressure: Do not exceed the nozzle-manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles of increasing pressure.

Number of nozzles: Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.

Nozzle Orientation: Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

Nozzle Type: Use nozzle type that is designed for the intended application. With most nozzle types, narrow spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: For some use patterns, reducing the effective boom length to less than 34 of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height: Applications should be made at a height no greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.)

WIND

Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Applications should be avoided below 3 mph due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDTY

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When making applications in low relative humidity, set up application equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

TEMPERATURE INVERSIONS

Applications should not occur during a temperature inversion due to high drift potential. Temperature inversions restrict vertical air mixing, which causes small-suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SENSITIVE AREAS

Do not apply when wind conditions will allow drift to sensitive areas. Sensitive areas include, but are not limited to; residential areas, bodies of water, known habitat for threatened or endangered species, and non-target crops.

RECOMMENDED BROADCAST RATE

Apply 3 quarts of **DUET** per acre when most grasses have reached the 1 to 3-leaf stage. Use 4 to 5 quarts of **DUET** per acre when the grasses are large (4 to 5 leaf stage) or when unseasonably cool weather conditions prevail, grass and broadleaf weeds are stressed due to dry conditions, or in cases where rice fields have not been drained completely and where weeds are large enough. Barnyardgrass may be controlled up to 30 to 45 days after planting, before rice plants have reached the fully tillered growth stage.

NOTE: DUET applied to rice after the 4-leaf stage may cause visible injury under some climatic conditions. Rice plants usually outgrow such injury.

WATER MANAGEMENT

For best weed control, establish the permanent flood as soon as possible (within 7 days of application) after the last application of **DUET** herbicide. Loss of permanent flood following applications of **DUET** may result in poor performance due to regrowth of treated plants or reinfestation by newly germinated weeds. Runoff caused by overflow, levee breach, seepage, or introduction of new water soon after treatment may reduce product performance.

IN CALIFORNIA: Use DUET only where rice fields are completely drained or a minimal amount of water remains. If a higher water level is desired, reflood field after 12 hours and before 7 days after treatment. This will discourage new weed infestations.

NOTE: Water drained from treated rice fields must not be used to irrigate other crops or be released within 1/2 mile of a potable water intake in flowing water (i.e., river, stream, etc.) or within 1/2 mile of a potable water intake in a standing body of water (i.e., lake, pond, or reservoir).

SPRAY MIXTURE PREPARATION Wet Spray Application

Thoroughly mix **DUET** with clean water (water that is free of sediment and agricultural chemicals) in the spray tank. Do not use water from paddies. Only approved drift control agents, e.g. Chemtrol6, may be used with **DUET**. Do not use any other additives except as directed by this label.

To ensure uniform mixing and application, agitate the mixture before application. If the mixture is not sprayed immediately after agitation, reagitate it before application. Always apply DUET spray preparations within 24 hours of product mixing, or the product may degrade.

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Do not store **DUET** in nurse tanks or any other tanks used to store or transport clean water. Install oneway valves (anti-siphoning devices) on lines and hoses of mixing/loading equipment to prevent contamination of nurse tanks or other clean water sources.

Mixing and application equipment exposed to **DUET** cannot be used for anything other than rice applications until it has been cleaned according to the procedures in the Sprayer Cleanup section of this label.

Additional Mixing Instructions (wet spray)

- 1. Fill the tank 1/4 to 1/3 full of clean water.
- 2. While agitating, add the required amount of DUET.
- 3. Continue agitation until the **DUET** is fully dispersed, at least 5 minutes.
- 4. Once the **DUET** is fully dispersed, maintain agitation and continue filling the tank with water. The **DUET** should be thoroughly mixed with water before adding any other material.
- 5. As the tank is filling, add the required tank mix partner (other labeled rice herbicides, adjuvants, drift control agents, etc.).
- 6. If the mixture is not continuously agitated, settling may occur. If settling occurs, thoroughly re-agitate before using.
- 7. Apply **DUET** spray preparations within 24 hours of product mixing, or the product may degrade.
- 8. If **DUET** and a tank mix partner are to be applied in multiple loads, pre-slurry the **DUET** in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the **DUET**.

SPRAYER CLEANUP

Before using equipment exposed to **DUET** to treat another crop, clean the sprayer and any other equipment (loading hoses, batch tanks, etc.) using the following procedure:

- 1. Steam-clean tank using a nonchlorine-based detergent, taking care to remove all physical residues.
- 2. Thoroughly rinse sprayer, tanks, boom, and hoses with clean water (free of sediment and agricultural chemicals).
- 3. Fill the tank one-half full with clean water and add Nutra-sol⁴ at 32 oz per 100 gal of water. Fill the tank to capacity with clean water. Flush the nozzles, boom, and hoses, and agitate (and recirculate, if possible) the sprayer for 15 minutes. Drain the equipment, taking care to flush the boom and hoses thoroughly.
- 4. Rinse tanks, hoses and nozzles with clean water to remove 'Nutra-sol'.
- 5. Fill the tank one-half full with clean water and add 1 gal of 21% ammonia or 7 gal of 3% ammonia per 100 gal of water. Fill the tank to capacity with clean water. Flush the nozzles, boom, and hoses and agitate (and recirculate, if possible) the sprayer for 15 minutes. Drain the equipment, taking care to flush the boom and hoses thoroughly.
- 6. Remove nozzles, screens, and strainers, and clean them separately.
- 7. Rinse tanks, booms, and hoses with clean water.
- 8. Repeat steps 5 and 7 an additional 3 times.
- 9. Rinse tanks, booms, and hoses to remove all traces of ammonia.
- 10. Water rinses may be applied to rice fields. Dispose of bleach rinses at an approved waste disposal facility.

NOTE: When applying multiple loads of **DUET** several days in a row, the following procedure must be performed at the end of each day: partially fill the tank with fresh water, flush the boom and hoses, and allow to sit overnight.

Attention: Do not use chlorine bleach with ammonia. All traces of liquid fertilizer containing ammonia, ammonium nitrate or ammonium sulphate must be rinsed from the mixing and application equipment using water before adding chlorine bleach solution. Failure to do so will release a gas with a musty chlorine odor that can cause eye, nose, and throat and lung irritation. Do not clean equipment in an enclosed area.

Perform cleanup procedures on batch tanks and any other mixing equipment separately from aircraft hoppers. Take care to clean loading hoses and any other equipment or surfaces exposed to **DUET**.

CONDITIONS OF SALE AND WARRANTY

RICECO AND SELLER OFFER THIS PRODUCT AND THE BUYER AND USER ACCEPTS THIS PRODUCT UNDER THE FOLLOWING AGREED CONDITIONS OF SALE AND WARRANTY.

The directions for use of this product are believed to be reliable and should be followed carefully. However, it is impossible to take into account all variables and to eliminate all risks associated with its use. Injury or damage may result because of conditions that are beyond the control of RICECO or the Seller. RICECO warrants only that this product conforms to the chemical description on the label and is believed to be reasonably fit for the purposes referred to in the Directions for Use when used as directed under normal conditions. RICECO MAKES NOT OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. In no case shall RICECO or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product. Any variation or exception from this warranty must be in writing and signed by an authorized RICECO representative.



RiceCo LLC 5100 Poplar Avenue, Suite 2428 Memphis, Tennessee 38137 USA Rev. 4/15/02

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