

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PM 22 352-506 P9 188

OCT 14 1994

J. H. Cain
 E. I. du Pont de Nemours and Co., Inc.
 Barley Mill Plaza, Walker's Mill Bldg. 37
 Wilmington, DE 19880-0038

Dear Mr. Cain:

Subject: Revised Labeling for Use of Londax in California
 DuPont Londax Herbicide
 EPA Registration No. 352-506
 Your Submission Dated April 4, 1994

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable with the following provision:

We have noted that the recommended measures to control spray drift are no longer included for aerial applications including a liquid carrier agent. These measures should be reinstated on the labeling and should include the following:

- 1) Nozzles should be oriented straight back along the windstream using straight stream orifices (such as disk with no swirl plate).
- 2) The lowest number of nozzles that is practical with the largest orifice size per nozzle should be used to obtain a minimum of 5 gallons per acre.
- 3) Application height should not exceed 1/2 the length of the wing span.
- 4) Boom length must not exceed 2/3 of the wing span.

A stamped copy is enclosed for your records. Please submit one (1) final printed copy for the referenced label, incorporating the above change, before releasing the product for shipment.

Sincerely yours,

Joanne I. Miller
 Product Manager (23)
 Fungicide-Herbicide Branch
 Registration Division (7505C)

Enclosure

DK: 305-7546: FHB/PM 23		CONCURRENCES					
SYMBOL	7505C						
SURNAME	D. KENNY						
DATE	10/13/94						



Londax®

herbicide

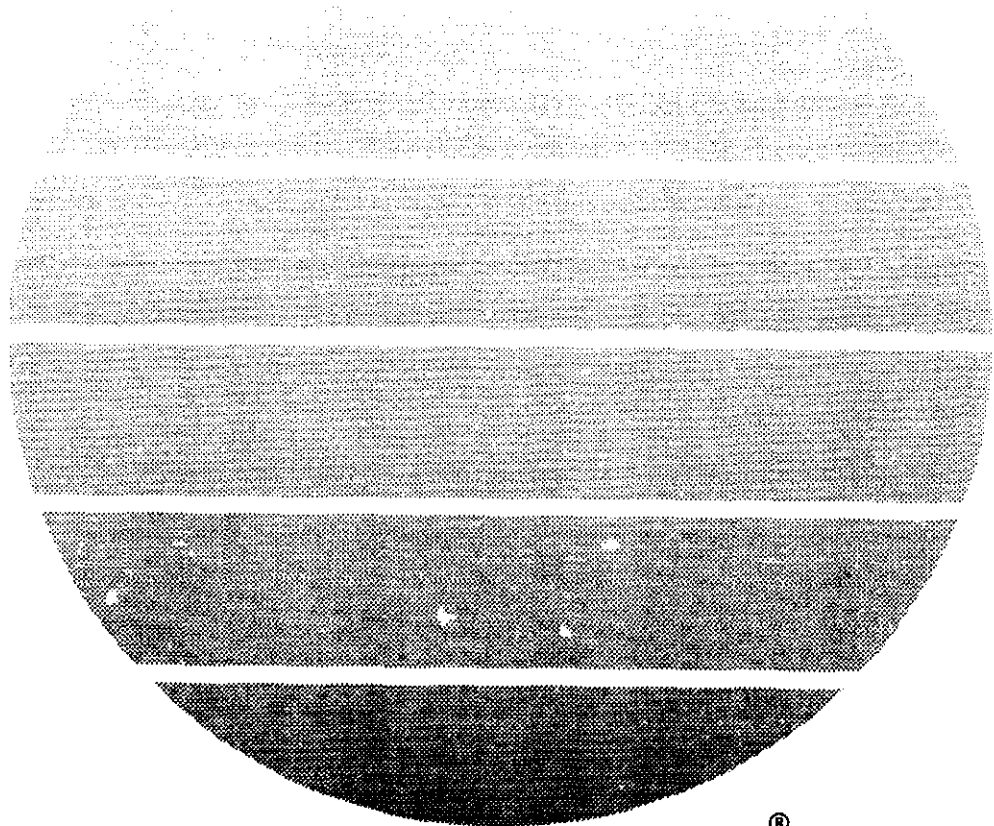
ACCEPTED
with COMMENTS
In EPA Letter Dated

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288

OCT 14 1994

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

352-506



®

"..... A Growing Partnership With Nature"



LONDAX HIGHLIGHTS

- LONDAX provides selective preemergence and postemergence weed control in rice.
- The use rate of LONDAX is 1-2/3 oz per acre.
- LONDAX may be applied by air (wet spray or dry application).
- For wet spray by air, apply in a minimum of 5 gal water.
- Hold field flood water static for at least 5 days after application.
- After LONDAX is used, and prior to spraying crops other than rice, follow equipment cleanup procedures. See Sprayer Cleanup.
- LONDAX is conveniently packaged in 8 x 16.6 oz containers per carton. One 16.6 oz container treats 10 acres
- Consult label text for complete use instructions and precautions. Always read and follow label directions for proper use.

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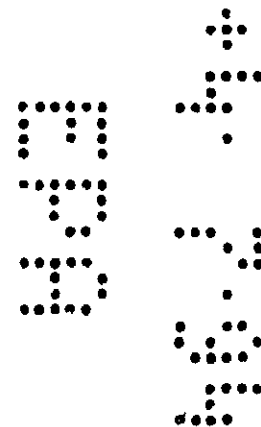
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LONDAX® HERBICIDE

FOR USE ON RICE
IN THE STATE OF CALIFORNIA

DRY FLOWABLE

ACTIVE INGREDIENT	BY WEIGHT
Methyl 2-[[[(4,6-dimethoxypyrimidin-2-yl) amino]-carbonyl]amino]sulfonyl methyl]benzoate	60%
INERT INGREDIENTS	40%
TOTAL	100%

EPA Reg. No. 352-506

U.S. Pat. 4,420,325

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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 this label, find someone to explain it to you in detail.)

STATEMENT OF PRACTICAL TREATMENT

If in eyes, immediately flush with plenty of water. Get medical attention.

If on skin, wash with plenty of soap and water. Get medical attention if irritation persists.

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 fingers.

Do not induce vomiting or give anything by mouth to an unconscious person.

For medical emergencies involving this product, call toll free: 1-800-441-3637.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING ! CAUSES EYE IRRITATION.

Do not get in eyes, on skin or clothing. Avoid breathing spray mist. Harmful if swallowed.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

Long-sleeved shirt and long pants.

Waterproof gloves.

Shoes plus socks.

Protective eyewear.

Discard clothing or 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.

ENVIRONMENTAL HAZARDS.

Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high water mark, except as specified on this label for use in rice. Do not contaminate water when disposing of equipment washwaters.

IMPORTANT

Injury to or loss of desirable trees or vegetation may result from failure to observe the following:

Do not apply or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.

Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of spray to desirable plants.

Do not contaminate any body of water.

Keep from contact with fertilizers, insecticide, fungicides, and seeds during storage.

Injury to or loss of subsequently sprayed crops may result from failure to observe the following procedures:

LONDAX must be cleaned from application equipment prior to spraying crops other than rice, according to cleanup procedures described in the *Sprayer Cleanup* section of this label.

Injury to or loss of adjacent sensitive crops and vegetation may result from failure to observe the following:

Avoid all direct or indirect (such as spray drift) contact with crops other than rice or land scheduled to be planted with crops other than rice because most crops other than rice are highly sensitive to LONDAX.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in possession of the user at the time of pesticide application.

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 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.
- Waterproof gloves.
- Shoes plus socks.
- Protective eyewear.

LONDAX should only be used in accordance with recommendations on this label. DuPont will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by DuPont. User assumes all risks associated with such nonrecommended use.

GENERAL INFORMATION

DuPont's LONDAX® Herbicide is a dry flowable formulation that is used for selective preemergent and postemergent weed control in rice. When applied according to label directions, it effectively controls many annual and perennial broadleaves and sedges. The best control is achieved when LONDAX is applied to very young emerging and actively growing weeds (fewer than three leaves). The degree and duration of control may depend on the following:

- weed spectrum and infestation intensity
- weed size at application
- growing conditions at and following treatment
- soil pH, texture, and organic matter content
- water management

ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

LONDAX rapidly inhibits the growth of susceptible broadleaf weeds and sedges. Three to 5 days after application to weeds, leaves of susceptible plants appear chlorotic, and the growing point subsequently dies. Susceptible plants are controlled in 7 to 21 days depending on the species. In some cases, affected plants remain green but are stunted and are not competitive with the crop.

The herbicidal action of LONDAX may be influenced by temperature. At warmer temperatures, expression of herbicide symptoms is accelerated; at cooler temperatures (when air or water temperatures are below 70 °F), expression of herbicide symptoms may be delayed beyond 5 days.

Occasionally, treated rice may suffer temporary chlorosis and/or growth retardation after treatment with LONDAX. These symptoms, which intensify in cold water and at high ambient temperatures, are normally temporary and disappear within two to three weeks after application.

WEEDS CONTROLLED

LONDAX effectively controls the following weeds when used according to label directions:

<u>Common Name</u>	<u>Scientific Name</u>
Blunt Spikerush	<i>Eleocharis obtusa</i>
California Arrowhead*	<i>Sagittaria montevidensis calycina</i>
Ducksalad	<i>Hydrocotyle limosa</i>
Eisen waterhyssop	<i>Bacopa eisenii</i>
Roundleaf waterhyssop	<i>Bacopa roundifolia</i>
Purple ammannia*	<i>Ammannia coccinea</i>
Redstem*	<i>Ammannia auriculata</i>
Roughseed bulrush*	<i>Scirpus mucronatus</i>
Southern naiad	<i>Najas guadalupensis</i>
Smallflower umbrellaplant*	<i>Cyperus difformis</i>
Water plantain (seedling)	<i>Alisma spp.</i>
Waterwort	<i>Elatine spp.</i>

* Naturally occurring resistant biotypes of this weed are known to exist in California. LONDAX will not control these biotypes.

In addition to controlling the weeds listed above, LONDAX controls barnyardgrass and watergrass if applied sequentially with Ordram¹ or Bolero². LONDAX should be applied on the same day as, or as soon as possible prior to or after, application of these pesticides.

Note: Observe all applicable directions, restrictions (including water-holding requirements), and precautions on the "Ordram" and "Bolero" labels.

RESISTANCE

Biotypes of certain weeds listed on this label are resistant to LONDAX and other herbicides with the same mode of action, even at exaggerated application rates. Biotypes are naturally occurring individuals of a species identical in appearance but with slightly different genetic compositions; the mode of action of a herbicide is the chemical interaction that interrupts a biological process necessary for plant growth and development.

If weed control is unsatisfactory, it may be necessary to respray problem areas using a product with a different mode of action, such as postemergence broadleaf and/or sedge herbicides. Consult your Ag dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative herbicide recommendations available in your area.

Because resistant biotypes are known to exist in California, it is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of the resistant biotypes.

APPLICATION INFORMATION

USE RATE

1-2/3 oz LONDAX per acre per year

GALLONAGE

Use at least 5 gal of water per acre for aerial applications (wet sprays).

APPLICATION TIMING

For best results, LONDAX should be applied to submerged weeds from preemergence to early postemergence and to rice at the 1- to 3-leaf stage. The best control is achieved when LONDAX is applied to very young emerging and actively growing weeds (fewer than three leaves).

LONDAX can be applied to rice beyond the 3-leaf stage, but late applications should target the preemergent to early postemergent stage of weeds.

SPRAY TANK PREPARATION

Spray equipment must be clean and free of deposits before using LONDAX. Deposits in spray equipment can trap LONDAX and inhibit cleanup of the spray equipment after use.

Therefore, before spraying LONDAX, clean the equipment according to the cleanup procedures specified on the label of the product previously sprayed. After completing this cleanup procedure, clean the spray equipment, loading

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hoses, batch tanks, and any other equipment that will be exposed to LONDAX according to the following procedure:

1. Steam-clean the tanks using a nonchlorine-based detergent, taking care to remove all physical residues.
2. Thoroughly rinse the sprayer, tanks, boom, and hoses with clean water. Be sure that the rinse water is free of sediment and agricultural chemicals.
3. Fill the tank one-half full with clean water and add Nutra-sol¹ at 32 oz per 100 gal of water. Fill the tank to capacity with clean water. Flush the boom and hoses and agitate (and recirculate, if possible) the sprayer for 15 minutes. Drain the equipment, taking care to flush the nozzles and hoses thoroughly.
4. Remove the nozzles, screens, and strainers and clean them separately.
5. Thoroughly rinse the sprayer, tanks, boom, nozzles, and hoses with clean water to remove "Nutra-sol".
6. Follow the label directions of the product previously sprayed for proper rinsate disposal.

SPRAY MIXTURE PREPARATION

Wet Spray Application

Thoroughly mix LONDAX 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. Chemtrol¹, may be used with LONDAX. 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 LONDAX spray preparations within 24 hours of product mixing, or the product may degrade.

Do not store LONDAX in nurse tanks or any other tanks used to store or transport clean water. Install one-way 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 LONDAX 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.

Dry (Direct) Application

LONDAX may be applied as a dry application—without dilution in a liquid carrier—by air to control weeds in water-seeded rice. When applied according to the instructions on this label, dry aerial applications of LONDAX effectively control many broadleaf and sedge weeds in water-seeded rice; however, special equipment is required for this method of application.

Note the following precautions when applying LONDAX dry by air:

- Follow the loading, application, and equipment calibration instructions provided by the equipment manufacturer.

- Apply using only equipment approved by both DuPont and the Federal Aviation Administration (FAA).
- Only certified applicators using DuPont-certified equipment should apply LONDAX dry by air.
- Do not mix LONDAX with any liquid carrier (such as water or oil).
- Do not mix with any surfactant or crop oil.
- Most crops other than rice are highly sensitive to LONDAX. Avoid all direct or indirect (such as spray drift) contact with nontarget crops (or land scheduled to be planted with crops), as injury may result.
- Do not use equipment designed to apply LONDAX dry by air to rice to apply any product to any crop other than rice, as injury may result.

WATER MANAGEMENT DURING AND FOLLOWING APPLICATION

At application, and for 5 days following application, the soil should be completely covered with at least 3" of water that is held static (water that remains in individual paddies). For the best weed control, foliage of target weeds must also remain covered with static water at application and during the water-holding period. LONDAX efficacy will be reduced in areas where soil and weed foliage are not sufficiently covered.

Runoff caused by rainfall occurring within 5 days of application may reduce product performance.

The field may be irrigated to maintain the flood level, but this may also reduce control.

SPRAYER CLEANUP

Before using equipment exposed to LONDAX 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-sol" 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 three times.
9. Rinse tanks, booms, and hoses to remove all traces of ammonia.
10. Dispose of the rinsate on site or at an approved waste disposal facility.

NOTE: When applying multiple loads of LONDAX 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.

CAUTION: 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, 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 LONDAX.

SPRAY DRIFT

THE MINIMIZATION OF PESTICIDE DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR. Interactions between weather conditions and land configurations may contribute to unpredictable drift patterns of all crop protection products. Responsibility for plant injury caused by spray drift lies with the applicator. As an aid for applying any crop protection product, follow these practices to minimize spray drift.

Do not allow spray from either ground or aerial equipment to drift onto neighboring crops or land, as even small amounts may injure susceptible plants. When spraying near adjacent sensitive crops or plants, do everything possible to reduce spray drift, including the following:

- Stop spraying if wind becomes excessive. DO NOT SPRAY IF WIND SPEED IS 10 MPH OR GREATER. Spray drift can occur at wind speeds less than 10 MPH. If sensitive crops or plants are downwind, extreme caution must be used, even in relatively low wind conditions. DO NOT SPRAY IF WINDS ARE GUSTY.
- High temperature, drought, and low relative humidity increase the possibility of spray drift. EXTREME CAUTION MUST BE USED WHEN THESE CONDITIONS ARE PRESENT AND SENSITIVE CROPS ARE NEARBY, REGARDLESS OF WIND SPEED.
- Do not apply during a temperature inversion. An inversion is characterized by low air movement and an increase in air temperature with an increase in altitude. In humid regions, a fog or mist may form. An inversion may be detected by producing a smoke column and checking for a layering effect. Smoke-producing devices on aircraft are recommended. If not sure whether an inversion exists, consult with local weather services before making an application.

Drift from ground equipment may be further reduced by:

- Using coarse sprays to minimize drift. Do not use nozzles that produce small droplets, such as spray-foil or airblast-type nozzles.
- Increasing the volume of spray mix per acre by using higher flow-rate nozzles.
- Reducing pressure (psi).
- Applying as close to target plants as possible while still maintaining a good spray pattern.

IMPORTANT PRECAUTIONS

- Do not apply this product through any type of irrigation system.
- Do not apply more than 1-2/3 oz LONDAX per acre per year.
- Do not graze treated fields or feed treated forage within 80 days of the last application.
- Do not apply LONDAX within 80 days of harvest.
- Do not apply LONDAX to rice under stress from abnormal weather or growing conditions, drought, disease, or insect or prior herbicide injury, as crop injury may occur. Severe stress, drought, disease, or insect damage following application may also result in crop injury.
- Water drained directly from treated fields must not be used to irrigate other crops.
- Do not mix LONDAX with any additives except as directed by this label.
- Do not use LONDAX on wild rice (*Zizania spp.*).
- Do not rotate to crops other than rice for 120 days following application.
- Do not apply LONDAX dry by air with any other application.
- Do not use a swath width greater than 60 feet when applying LONDAX dry by air.
- Apply LONDAX dry by air at a maximum of no greater than 1/2 the wing span of the aircraft.
- Do not apply LONDAX dry by air to dry seeded rice.
- Do not apply LONDAX within 60 feet of sensitive crops.

STORAGE AND DISPOSAL

STORAGE: Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage.. Not for use or storage in or around the home. Keep container closed.

PRODUCT DISPOSAL: Do not contaminate water, food, or feed by disposal. Waste 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) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or, if allowed by state and local authorities, by burning. If the containers are burned, stay out of smoke.

NOTICE TO BUYER

Purchase of this material does not confer any rights under patents of countries outside the United States.

NOTICE OF WARRANTY

DuPont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with directions under normal use conditions. 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 DuPont. In no case shall DuPont be liable for consequential, special, or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the buyer. DUPONT MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

- 1 "Ordram" is a registered trademark of ICI Americas, Inc., Wilmington, DE
- 2 "Bolero" is a registered trademark of Valent USA Corp., Walnut Creek, CA
- 3 "Nutra-Gel" is a product of Thomas G. Kilfoil Company, Inc., San Bruno, CA
- 4 "Chemtrol" is a product of Loveland Industries, Inc., Loveland, CO

NET WT. 16.6 oz

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