



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

February 10, 2022

Frank Carey
Senior Regulatory Expert Manager
K-I Chemical U.S.A. Inc.
5425 Page Road, Suite 160
Durham, NC 27703

Subject: Registration Review Label Mitigation for Thiobencarb
Product Name: BOLERO 15 G (HERBICIDE)
EPA Registration Number: 63588-14
Application Date: 2/21/2020
Decision Number: 560077

Dear Mr. Carey:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Thiobencarb Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

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If you have any questions about this letter, please contact Quinn Gavin by phone at 202-566-2284, or via email at gavin.quinn@epa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Linda Arrington".

Linda Arrington, Branch Chief
Risk Management and Implementation Branch 4
Pesticide Re-Evaluation Division
Office of Pesticide Programs

Enclosure

K-I CHEMICAL U.S.A. INC.

THIOBENCARB	GROUP	8	HERBICIDE
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[Bracketed text is optional.]

[*Bracketed text in italics is information for the reviewer.*]

BOLERO® 15 G (HERBICIDE)

Active Ingredient	By Wt
*Thiobencarb.....	15%
Other Ingredients	85%
Total	100%

*S-[(4-chlorophenyl)methyl] diethylcarbamothioate

Bolero® 15 G Herbicide is granular containing 0.15 lb thiobencarb active ingredient per pound.

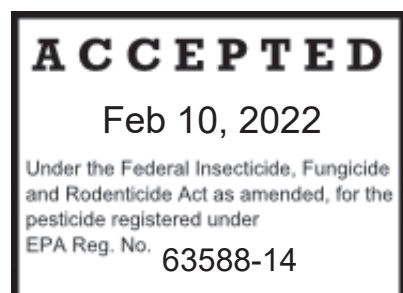
For Use in California Only

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE NEXT PAGE FOR ADDITIONAL PRECAUTIONARY STATEMENTS

NET WEIGHT _____



FIRST AID	
If in eyes:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If inhaled:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If on skin or clothing:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If swallowed:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 800-892-0099 for emergency medical treatment information.	
NOTE TO PHYSICIAN	
Thiobencarb is a cholinesterase inhibitor. If signs of cholinesterase inhibition appear, atropine is antidotal.	

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION: Causes eye irritation. Harmful if inhaled, absorbed through skin or swallowed. Avoid contact with eyes, skin or clothing. Avoid breathing dust. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Applicators and other handlers must wear: protective eyewear, coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, including Barrier Laminate or Butyl Rubber ≥ 14 mils or Nitrile Rubber ≥ 14 mils or Viton ≥ 14 mils, chemical resistant apron when loading formulation into equipment or cleaning equipment and socks plus shoes.

USER SAFETY REQUIREMENTS

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.

All workers must wear: waterproof boots plus socks when entering flooded fields following treatment.

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS:

This product is toxic to fish and shrimp. Do not apply directly to water except as directed on this label, 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.

NON-TARGET ORGANISM ADVISORY STATEMENT

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

This product is to be used in California Central Valley only. Not for use in other parts of California within the range of listed Pacific salmonids.

ENDANGERED SPECIES

The National Marine Fisheries Service has determined that thiobencarb, when used in California according to the label and existing restricted materials permit conditions, is not likely to jeopardize the continued existence of endangered or threatened salmonid species, nor is it likely to destroy or adversely modify designated critical habitat of these species. To ensure and continue the proper use of thiobencarb on rice in California, you must follow the measures contained in the Endangered Species Protection Bulletin for the county in which you are applying the product. To obtain Bulletins, no more than six months before using this product, consult <http://www.epa.gov/espp/> or call 1-844-447-3813. You must use the Bulletin valid for the month in which you will apply the product. The use limitations in the Bulletins and linked Mandatory Pesticide Use Limitations document are adapted from those currently in force for thiobencarb under the restricted materials permit conditions of the California Department of Pesticide Regulation, with enforcement by the County Agricultural Commissioners.

DIRECTIONS FOR USE

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

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

Do not apply this product in a way that will contact workers or other persons, either directly or indirectly 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 12 hours.

PPE required for entry within 12 hours after application 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: protective eyewear, coveralls, long-sleeved shirt and long pants, chemical-resistant gloves, including Barrier Laminate or Butyl Rubber ≥ 14 mils or Nitrile Rubber ≥ 14 mils or Viton ≥ 14 mils and waterproof boots plus socks.

**DISCLAIMER, RISKS OF USING THIS PRODUCT,
LIMITED WARRANTY
AND LIMITATION OF LIABILITY**

IMPORTANT: Read the entire Label including this Disclaimer, Risks of Using this Product, Limited Warranty, and Limitation of Liability before using this product. If the terms are not acceptable THEN DO NOT USE THE PRODUCT; rather, return the unopened product within 15 days of purchase for a refund of the purchase price.

RISKS OF USING THIS PRODUCT

The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests or weeds, resistance of the target pest or weeds to this product, injury caused by drift, and injury to rotational crops caused by carryover in the soil. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of K-I Chemical. The Buyer should be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND AGREES THAT TO THE EXTENT CONSISTENT WITH APPLICABLE LAW RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER.

To the extent consistent with applicable law, K-I Chemical shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. To the extent consistent with applicable law, Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

LIMITED WARRANTY

K-I Chemical warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label **and subject to the Risks of Using This Product as described above. To the extent consistent with applicable law AND EXCEPT AS SET FORTH ABOVE, K-I Chemical MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED.** No agent or representative of K-I Chemical or Seller is authorized to make or create any other express or implied warranty.

LIMITATION OF LIABILITY

To the extent consistent with applicable law, K-I Chemical or Seller is not liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. The limitation includes, but is not limited to, loss of yield on all or any portion of the treated acreage, increased care, treatment or other expenses required to take the crop to harvest, increased finance charges or altered finance ratings, emotional or mental distress and/or exemplary damages. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF K-I CHEMICAL OR SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT, AT THE ELECTION OF K-I CHEMICAL OR SELLER, THE REPLACEMENT OF THE PRODUCT.

PROMPT NOTICE OF CLAIM

To the extent consistent with applicable law allowing such requirements K-I Chemical must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is latter, so that an immediate inspection of the affected property and growing crops can be made.

To the extent consistent with applicable law if Buyer does not notify K-I Chemical of any claims, in such period, it shall be barred from obtaining any remedy.

NO AMENDMENTS

K-I Chemical and Seller offer this product, and Buyer accepts it, subject to the foregoing **Disclaimer, Risks of Using This Product, Limited Warranty and Limitation of Liability**, which may not be modified by any oral or written agreement.

TANK MIXES

NOTICE: Combination or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor, consistent with applicable law.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the entire label of each product to be used in combination with this product. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Resistance Management

For resistance management, *Bolero 15 G* Herbicide is a Group 8 herbicide. Any weed population may contain or develop plants naturally resistant to *Bolero 15 G Herbicide* and other Group 8 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance take one or more of the following steps:

- Rotate the use of *Bolero 15 G* Herbicide or other Group 8 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Fields should be scouted prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective. Fields should be scouted after application to verify that the treatment was effective. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes or to find out if suspected resistant weeds have been found in their region.

USE INSTRUCTIONS

CROP	WEEDS	AMOUNT <i>BOLERO</i> 15 G HERBICIDE
Rice	Barnyardgrass (Watergrass)[Suppressed] Smallflower Umbrellaplant Sprangletop	<p>[20.0 to 26.7 lb/A (3.0 to 4.0 lb ai/A)] [23.3 lb/A (3.5 lb ai/A)]</p> <p>[Use the higher rate when weed pressure is high or when the weed growth stage is near the upper application limit.</p> <p>Use the lower rate when weed pressure is lower and weeds are smaller in size.]</p> <p>[At a rate of 23.3 lb/A (3.5 lb ai/A) Barnyardgrass (Watergrass) is suppressed.]</p>

SPECIAL INSTRUCTIONS

Apply after flooding when rice is in the expanded two-leaf stage (first open leaf). Do not apply if rice exhibits symptoms of stress. The variety Cal Pearl may react adversely to some stress conditions more than other varieties.

Optimum size for [control] [suppression] of Barnyardgrass (Watergrass) is two (2) leaves or less. Optimum size for control of Smallflower Umbrellaplant is three (3) leaves or less. Smallflower Umbrellaplant must be submerged for optimum control. Cold weather during the planting season may result in decreased weed control due to prolonged period of weed seed germination.

[Do not drain *Bolero* 15 G Herbicide treated fields for a minimum of 14 days after application, except where state regulation may allow shorter water holding periods for hydrologically isolated fields or for fields associated with systems designed to isolate discharged water from natural bodies of water. Examples of such systems include tailwater recovery systems for single or multiple fields, and use of fallowland for ponding discharge water. Contact your Department of Pesticide Regulation for further information on acceptable water management practices.]

[-or-]

[SPECIAL INSTRUCTIONS FOR CALIFORNIA ONLY:]

[Do not drain *Bolero* 15 G Herbicide treated fields for a minimum of 30 days after application, except where the County Agricultural Commissioner may allow shorter water holding periods for hydrologically isolated fields, or for fields associated with systems designed to isolate discharged water from natural bodies of water. Examples of such systems include tailwater recovery systems for single or multiple fields, and use of fallow land for ponding discharge water. Contact the County Agricultural Commissioner for further information on acceptable water management practices.]

Maintain water level in the checks at 3 to 4 inches with no exposed soil. Minimize water flow during and up to four days after application for good weed control.

RESTRICTIONS

- **DO NOT** apply more than 4 lb ai/A of thiobencarb per year.
- Do not make more than one application per year.
- Do not apply to rice paddies where commercial catfish or crayfish farming will be practiced.
- Do not use on rice fields adjacent to catfish or crayfish ponds.
- Do not use water drained directly from treated fields to irrigate other crops.
- Do not apply this product within 24 hours of rainfall, or when heavy rain is expected to occur within 24 hours.
- Do not mix/load or otherwise handle this product within 100 feet of aquatic habitat.
- Do not use this product to impregnate fertilizer.

ROTATIONAL RESTRICTIONS

Do not plant subsequent crops in treated fields within 6 months of last application.

RECOMMENDED MANAGEMENT PRACTICES:

Bolero 15 G Herbicide use in rice fields which have received spring incorporation of high amounts (no straw burning or removal) of straw and/or green organic matter, may reduce plant stand and yield.

Recommended management practices which will help promote soil conditions conducive for the production of healthy rice treated with *Bolero* 15 G Herbicide include:

- Burn crop residue where state regulations allow or remove straw.
- Fall plowing/discing of crop straw.
- Chemical "burndown" of green vegetation after fall plowing/discing prior to final seed bed preparation.
- Maintain uniform flood depth of 3 to 4 inches.

Inspect water-seeded rice fields treated with *Bolero* 15 G Herbicide post-flood regularly during tillering. If the following symptoms (associated with decomposition of crop/weed residues) occur:

1. Dark green foliage, and/or
2. Reduced plant height, and/or
3. Plant deformation, immediately drain the field (if recirculating systems or water impoundment allows) for 7 to 14 days or until the soil starts to crack. Low spots which do not drain completely may continue to display symptoms.

<p style="text-align: center;">RECOMMENDED MANAGEMENT PRACTICES POST-FLOOD WATER-SEEDED USES OF <i>BOLERO</i> 15 G HERBICIDE</p>

Bolero 15 G Herbicide use in rice fields which develop anaerobic (low oxygen content) soil conditions following planting may reduce plant stand and yield. Anaerobic soil conditions are likely to occur when: (1) green matter and crop residue is plowed or worked into the soil prior to planting, (2) internal soil drainage is slow (poor percolation), (3) there is a continuous flood, and (4) there are areas in the field which retain water during periods of prescribed flood removal.

Management practices which will help to minimize the development of anaerobic soil conditions and thereby promote good soil conditions for the production of healthy rice treated with *Bolero* 15 G Herbicide are:

- Removal of previous crop and weed residues, or
- Destruction of previous crop and weed residues by:
 - burning (where state regulations allows)
 - fall and winter plowing
 - use of chemical “burndown” (glyphosate or paraquat) to prevent vegetation buildup after initial ground preparation (fall and winter plowing) and prior to final seedbed preparation.
- Application of fertilizer based on soil test results – do not apply excess phosphorous.
- Uniform leveling practices which eliminate low spots in the field and ensure that the field can be entirely drained, if necessary (This is far more difficult to achieve with the use of contour levees. Fields which have been precision leveled for perimeter ditches or straight levees are more suited to rapid removal of flood water.)
- Uniform flood depth of 3 to 4 inches.

Restrictions

- **DO NOT** exceed labeled rates of *Bolero* 15 G Herbicide. Accurately calibrate application equipment and minimize or eliminate application overlap.
- **DO NOT** use *Bolero* 15 G Herbicide on water seeded rice grown in fields which have been land leveled resulting in severe cuts and heavily filled areas (does not apply to normal maintenance leveling) in the past 18 months. Fields with a “loose” seedbed may also exhibit severe injury.
- **DO NOT** use *Bolero* 15 G Herbicide on rice grown in fields which have received chicken litter or had large amounts of green vegetative residue incorporated in the past 10 months.
-
- **DO NOT PLANT ADAIR, MILLIE OR L-201 RICE VARIETIES.** If a post flood *Bolero* 15 G Herbicide program is used in water seeded rice,

Precautions

Inspect water seeded rice fields treated with *Bolero* 15 G Herbicide (post flood) regularly through the stand establishment and tillering stages. If phytotoxic symptoms (see Special Instructions above) occur, immediately drain the field (if recirculating systems or water impoundment allows or the fields is hydrologically isolated) for 7 to 14 days or until the soil starts to crack to allow the soil to oxygenate; then re-flood. Low spots which do not drain completely may continue to display phytotoxic symptoms. Use of *Bolero* 15G Herbicide on rice fields which cannot be drained as necessary [due to California water holding restrictions], may result in phytotoxic symptoms and **is done at the sole risk of the user.**

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage, disposal or cleaning of equipment. Open dumping is prohibited.

PESTICIDE STORAGE

Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Store in cool, dry place. Protect from excessive heat. For help with any spill, leak, fire or exposure involving this material, call day or night: 800-892-0099.

PESTICIDE DISPOSAL

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

CONTAINER HANDLING

Nonrefillable bag. Do not reuse or refill the bag. Completely empty the bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into equipment. Offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration.

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Bolero is a registered trademark of Kumiai Chemical Industry Co., Ltd.

Manufactured for
K-I Chemical U.S.A. Inc.
White Plains, New York 10606
Made in U.S.A.

EPA Reg. No. 63588-14
EPA Est.

063588-00014.20200221.BOL15G.Amend.ID.Clean