PMJ2 50534-191



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

APR 28 1994

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

Ralph P. Burton ISK BIOTECH CORP 5966 HEISLEY ROAD BOX 8000 MENTOR, OH 44061

Subject:

Label Amendment Submission of 09/07/93 in Response to PR Notice 93-7

EPA Reg. No. 50534-191

BRAVAO C/M

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

By the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling AND
- WITHIN one year from date of this acceptance.

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Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL) Office of Pesticide Programs (7505C) U.S. Environmental Protection Agency 401 M Street, SW Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Aincerely,

Jim Tompkins Deputy Chief Registration Support Branch Registration Division (7505W)

Attachment

Net Contents:

Bravo® C/M

Agricultural Fungicide/Bactericide

(Water Dispersible Granules)

Active Ingredients: Chlorothalonil (tetrachloroisophthalonitrile)	27.0%
Copper Oxychloride*	45.8%
Maneb (manganese ethylene bisdithiocarbamate)**	5.4%
Inert ingredients:	21.8%
Total:	100.0%

^{*}Metallic copper equivalent 27.0%

Keep Out of Reach of Children DANGER – PELIGRO

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

See side panel for additional precautionary statements.

Precaucion al Usuario:

Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido-explicado ampliamente.

ISK Biotech Corporation 5966 Heisley Road P.O. Box 8000 Mentor, Ohio 44061-8000

EPA Reg. No. 50534-191

EPA Est. No. 37429-GA-1

BRAVO is a registered trademark of ISK Biotech Corporation.

3311-4035-1025-9306

ACCEPTED
with COMMENTS
In EPA Letter Dated

APR 28 1994

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

^{**}Equivalent to manganese metallic 1.1%

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Danger

Causes irreversible eye damage. Harmful if swallowed or absorbed through skin. DO NOT get in eyes, on skin or on clothing. Wear goggles or face shield when handling this product. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. DO NOT take internally. Avoid breathing spray mist.

DO NOT apply this product in such a manner as to directly, or through drift, expose workers or other persons. The area being treated must be vacated by unprotected persons.

Note to User: This product may produce mild bronchial irritation and temporary irritation of the skin characterized by redness or rash on exposed skin areas. Affected persons should consult a physician.

First Aid

If in eyes: Flush eyes with plenty of water for 15 minutes. Call a physician.

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

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. DO NOT induce vomiting or give anything by mouth to an unconscious person.

Note to Physician: Persons having temporary irritation respond to treatment with antihistamines or steroid creams and/or systemic steroids.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish, aquatic invertebrates, and marine/estuarine organisms. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. 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 apply when weather conditions favor drift from treated areas. DO NOT contaminate water when disposing of equipment washwaters.

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Storage: Store in a cool place. Protect from excessive heat.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray 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 Hazarabus Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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WARRANTY AND LIMITATION OF DAMAGES

Seller warrants that this material conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use and Buyer assumes the risk of any use contrary to such directions. SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANT-ABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO. In no event shall Seller's liability for any breach of warranty exceed the purchase price of the material as to which a claim is made.

DIRECTIONS FOR USE

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

Agricultural Use Requirements

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

SEE ENCLOSED FOLDER FOR INSTRUCTIONS DIRECTIONS FOR USE

PLACE INSERT POUCH HERE

(INSERT FOLDER)

Bravo® C/M

(Water Dispersible Granules)

Active Ingredients:

Chlorothalonil (tetrachloroisophthalonitrile)	27.0%
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Inert Ingredients:	21.8%
Total:	100.0%

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ISK Biotech Corporation

5966 Heisley Road P.O. Box 8000

Mentor, Ohio 44061-8000

EPAReg. No. 50534-191

EPAEst. No. 37429-GA-1

3311-4035-8036-9306

^{**}Equivalent to manganese metallic 1.1%

Bravo® C/M
A Broad Spectrum Agricultural Fungicide/ Bactericide
Read entire label carefully and use only as directed.

PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals Danger

Causes irreversible eye damage. Harmful if swallowed or absorbed through skin. DO NOT get in eyes, on skin or on clothing. Wear goggles or face shield when handling this product. Wash thoroughly with soap and water after handling. Pernove contaminated clothing and wash before reuse. DO NOT take internally. Avoid breathing spray mist.

DO NOT apply this product in such a manner as to directly, or through drift, expose workers or other persons. The area being treated must be vacated by unprotected persons.

Note to User: This product may produce mild bronchial irritation and temporary irritation of the skin characterized by redness or rash on exposed skin areas. Affected persons should consult a physician.

First Aid

If in eyes: Flush eyes with plenty of water for 15 minutes. Call a physician.

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

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. DO NOT induce vomiting or give anything by mouth to an unconscious person.

Note to Physician: Persons having temporary irritation respond to treatment with antihistamines or steroid creams and/or systemic steroids.

Personal Protective Equipment (PPE):

Applicators and other handlers (other than mixers and loaders) must wear: coveralls over long-sleeved shirt and long pants, waterproof gloves, shoes plus socks, protective eyewear, chemical-resistant headgear for overhead exposure, chemical-resistant apron when cleaning equipment, and a dust/mist filtering respirator (MSHA/NICSH approval number prefix TC-21C).

Mixers and Loaders must wear: coveralls over long-sleeved shirt and long plants, waterproof gloves, shoes plus socks, protective eyewear, chemical-resistant headgeout chemical-resistant apron when mixing or loading, and dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C).

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 seperately from other laundry.

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.

Human flaggers must be in enclosed cabs. The enclosed cab must be used 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 clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish, aquatic invertebrates, and marine/estuarine organisms. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. 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 apply when weather conditions favor drift from treated areas. DO NOT contaminate water when disposing of equipment washwaters.

GENERAL INFORMATION

BRAVO C/M contains chlorothalonil which is an excellent fungicide when used according to label directions for control of a broad spectrum of diseases of tomatoes. In addition, BRAVO C/M contains copper oxychloride plus maneb to provide control of bacterial spot and bacterial speck of tomatoes when applied as indicated in the following use directions.

BRAVO C/M is a broad spectrum protectant fungicide/bactericide which is most effective when applied in dilute sprays. Applications should be started early before infection and continued as indicated in the Directions for Use. Application should be made at the recommended label rate and timing starting at the first

sign of disease, first report of disease in the area, or when environmental conditions become favorable for disease development. Thorough, uniform coverage is essential for effective disease control.

DO NOT combine BRAVO C/M in the spray tank with surfactants, fertilizers or other pesticides unless your prior use has shown the combination physically compatible, effective and non-injurious under your conditions of use.

DO NOT combine BRAVO C/M with Dipel 4L, Foil, Triton AG-98, Triton B-1956, Latron B-1956 or Latron AG-98 as phytotoxicity may result from the combination when applied to the crops on this label.

Dipel is a registered trademark of Abbott Laboratories; Foil is a registered trademark of Ecogen Corporation. Triton AG-98, Triton B-1956, Latron B-1956 and Latron AG-98 are trademarks of Rohm and Haas Company.

The required amount of BRAVO C/M should be added slowly into the spray tank during filling. Keep agitator running when filling spray tank and during spray operations. DO NOT use on greenhouse-grown tomatoes.

DIRECTIONS FOR USE

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

If this product is used on a crop, no other product containing a different EBDC active ingredient may be used on the same crop during the same growing season.

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 48 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 long-sleeved shirt and long pants, waterproof gloves, shoes plus socks, protective eyewear, and chemical-resistant headgear for overhead exposure.

Personal—Protective—Clothing: All agricultural workers/handlers (i.e., mixers, loaders, and applicators) applying EBDCs must wear coveralls over long-sleeved shirt and long pants, shoes, socks, and chemical-resistant gloves. During mixing and loading, a chemical-resistant apron and goggles or a face shield must also be worn. For agricultural workers, where completely enclosed cabs with positive pressure filtration or an enclosed cockpit for aerial application are used, a long-sleeved shirt and long pants may be worn in place of the protective clothing described above. Chemical-resistant gloves must be available in the cab or cockpit and worn upon exiting. The gloves must be kept in an enclosed container in the cab or cockpit to prevent



contamination of the inside of the cab or cockpit. During aerial application, human flaggers are prohibited unless in totally enclosed vehicles.

For Use on Tornatoes: BRAVO C/M is a specially designed product which controls bacterial and fungal diseases of tornato. The following diseases can be controlled through proper use of BRAVO C/M:

DISEASES	Pathogen
Bacterial Spot	(Xanthomonas campestris pv. vesicatoria)
Bacterial Speck	(Pseudomonas syringae pv. lycopersicae)
Target Spot	(Corynespora cassiicola)
Early Blight	(Alternaria solani)
Late Blight	(Phytophthora infestans)
Gray Leaf Mold	(Cladosporium fulvum)
Gray Leaf Spot	(Stemphylium spp.)
Septoria Leafspot	(Septoria lycopersici)
Altemaria Fruit Rot or Black Mold	(Alternaria alternata)
Gray Mold	(Botrytis cinerea)
Rhizoctonia Fruit Rot	(Rhizoctonia spp.)
Anthracnose	(Colletotrichum phomoides)

Apply in sufficient water to obtain complete coverage of canopy, generally 50 to 125 gallons per acre. On upright staked tomatoes use application equipment capable of thoroughly covering the crop canopy, generally over-row sprayers with vertical boom orientation. On bush tomatoes, use nozzle placement that will insure thorough coverage of the canopy. Begin applications when dew or rain occur and disease threatens. Repeat applications on a weekly schedule, using the following rates:

	Total number applications per season	Application rate per acre (lbs. BRAVO C/M)	Recommended spray volume (gal/a)	
Schedule			Pre-bloom	Bloom - Harvest
Weekly	6 West of MR*	4-6	50 - 75	75 - 125
	12 East of MR			

^{*}MR = Mississippi River

When conditions favor severe disease, use the highest rate listed. DO NOT apply more than 6 lbs. of BRAVO C/M per acre in any application. DO NOT apply BRAVO C/M within 5 days of harvest.

Reentry: DO NOT enter treated area to perform hand labor within 24 hours of application unless the following protective clothing is worn: a long-sleeved shirt and long-pants, shoes, socks, and chemical-resistant gloves.

Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Oral and written warnings must include the following information: "DANGER. Area treated with BRAVO C/M on (date of application). DO NOT enter without appropriate protective clothing for 24 hours. In case of accidental exposure, wash exposed area with plenty of water and get medical attention. For further information see 'Precautionary Statements' on the label".

Application and Calibration Techniques for Sprinkler Irrigation

Apply this product only through center pivot, motorized lateral move, traveling gun, solid set and portable (wheel move, side roll, end tow, or hand move) irrigation system(s). DO NOT apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

DO NOT apply this product through irrigation systems connected to a public water system. "Public water system" means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year.

Controls for both irrigation water and pesticide injection systems must be functionally interlocked, so as to automatically terminate pesticide injection when the irrigation water pump motor stops. A person knowledgeable of the irrigation system and responsible for its operation shall be present so as to discontinue pesticide injection and make necessary adjustments, should the need arise.

The irrigation water pipeline must be fitted with a functional, automatic, quick-closing check valve to prevent the flow of treated irrigation water back toward the water source. The pipeline must also be fitted with a vacuum relief valve and low pressure drain, located between the irrigation water pump and the check valve, to prevent back-siphoning of treated irrigation water into the water source.

Always inject BRAVO C/M into irrigation water after it discharges from the irrigation pump and after it passes through the check valve. Never inject pesticides into the intake line on the suction side of the pump.

Pesticide injection equipment must be fitted with a functional, normally closed solenoid-operated valve located on the intake side of the injection pump. Interlock this valve to the power system, so as to prevent fluid from being withdrawn from the chemical supply tank when the irrigation system is either automatically or manually turned off.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur. DO NOT apply when wind speed favors drift beyond the area intended for treatment.

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public.

Posting must conform to the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters at least 1-1/2 inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

This sign is in addition to any sign posted to comply with the Worker Protection Standard.

BRAVO C/M may be used through two basic types of sprinkler irrigation systems as outlined in Sections A and B below. Determine which type of system is in place, then refer to the appropriate directions provided for each type.

A. Center Pivot, Motorized Lateral Move and Traveling Gun Irrigation Equipment

For injection of pesticides, these continuously moving systems must use a positive displacement injection pump, of either diaphragm or piston type, constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock and capable of injection at pressures approximately 2-3 times those encountered within the irrigation water line. Venturi applicator units cannot be used on these systems.

Fill chemical supply tank of injection equipment with water. Operate system for one complete revolution or run across the field, measuring time required, amount of water injected, and acreage covered. Thoroughly mix recommended amount of BRAVO C/M for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run. Mixture in the chemical supply tank must be continuously agitated during the injection run. Shut off injection equipment after one revolution or run, but continue to operate irrigation system until BRAVO C/M has been cleared from last sprinkler head.

B. Solid Set and Portable (Wheel Move, Side Roll, End Tow, or Hand Move) Irrigation Equipment

With stationary systems, an effectively designed in-line venturi applicator unit is preferred which is constructed of materials that are compatible with pesticides; however, a positive-displacement pump can also be used.

Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a thirty to forty-five minute period. Mix desired amount of BRAVO C/M for acreage to be covered with water so that the total mixture of BRAVO C/M plus water in the injection tank is equal to the quantity of water used during calibration and operate entire system at normal pressures recommended by the manufacturer of injection equipment used for amount of time established during calibration. Agitation is recommended. BRAVO C/M can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until 3RAVO C/M has been cleared from last sprinkler head.

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STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Storage: Store in a cool place. Protect from excessive heat.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray 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: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

WARRANTY AND LIMITATION OF DAMAGES

Seller warrants that this material conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use and Buyer assumes the risk of any use contrary to such directions. SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO. In no event shall Seller's liability for any breach of warranty exceed the purchase price of the material as to which a claim is made.