

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

P. S. # 2154 10  
 11/12

MAR 31 1986

Dr. J.P. Brown  
 Zoecon Corporation  
 975 California Avenue  
 Palo Alto, CA 94304

Dear Dr. Brown:

Subject: Conditional Amendment for Cotton  
 MAVRIK® 2E Insecticide  
 EPA Registration No. 20954-115  
 Your Amended Application Dated September 18, 1984

The Agency is conditionally approving an amendment to the registration of the above-referenced product under the authority of section 3(c)(7)(B) of FIFRA. This amendment allows use of the subject product on cotton. In accordance with your request, this amendment will expire automatically August 31, 1989. In addition, during the period that this amendment is effective, it will be subject to the conditions listed below. To maintain your registration, you must:

- (1). Place the following statements on the front panel of the label of each product bearing directions for use on cotton:

"Not for sale or distribution after August 31, 1989. Not for use after December 31, 1989.

- (2). Submit the data required by the deadlines listed below, from studies conducted in accordance with the Good Laboratory Practice Registration Standards, 40 CFR Part 160, and appropriate test guidelines as referenced in EPA's Data Requirements for Registration regulation, 40 CFR Part 158.

CONCURRENCES

SYMBOL	TS-767						
SURNAME	Atwood						
DATE	3/28/86						

- a. Acute LC<sub>50</sub> Estuarine and Marine Organisms Study (96 hour LC<sub>50</sub> for marine fish plus 48-hour EC<sub>50</sub> for oyster embryo larvae) - Guideline Reference No. (GRN 72-3) - Due Date - June 30, 1986
  - b. Fish Early life stage study (GRN 72-4) - Due Date - June 30, 1986
  - c. A Field Dissipation Study (GRN 164-1) - Due Date - August 31, 1988
  - d. Rotational Crop Studies (GRN 165-1) - Due Date - August 31, 1989
  - e. Aquatic Organism Accumulation (GRN 72-6) - Due Date - March 31, 1987
  - f. Fish - Life Cycle Test (GRN 72-5) - Due Date - June 30, 1988
  - g. Simulated Field Testing - Aquatic Organisms (GRN 72-7) - Due Date December 31, 1988
3. Submit and/or cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
  4. Submit production information (pounds or gallons produced) for this product for the fiscal year in which the use on cotton is conditionally registered, in accordance with FIFRA section 29. The fiscal year begins October 1, and ends September 30. The product information will be submitted to the Agency no later than November 15, following the end of the preceding fiscal year.

This information is to be submitted to:

Registration Support and Emergency Response Branch  
Registration Division (TS-767C)  
Environmental Protection Agency  
Washington, DC 20460

5. You will make the following additional label changes before you release the product for shipment bearing the amended labeling:

- a. Based upon the proposed use on cotton, the acute toxicity to non-target organisms and the potential exposure to non-target organisms this product is classified for restricted use. Therefore, add the following statements to the front panel of the label:

RESTRICTED USE PESTICIDE

"Toxic to Fish and Aquatic Organisms"

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

- b. This product is in Toxicity Category I based upon eye irritation hazard. Therefore in addition to the English Signal word, you must include the Spanish language equivalent on the front panel.

The appropriate Spanish Signal Word "PELIGRO" (for DANGER) must appear in capital letters of the same type as the equivalent English Signal Word. In addition, agricultural products in Toxicity Category I must bear minimum Spanish language Precautionary Statements. The following Precautionary Statement must be placed on the label in proximity to the Spanish Signal Word:

PRECAUTION AL USUARIO: Si usted no lee ingles, no use este producto hasta que le etiqueta haya sido explicado ampliamente.

- c. Delete the statement "Sensitive individuals may temporarily experience an itching or burning sensation with or without a rash following exposure" since existing data does not support this statement.

- d. Add the following instructions to the Statement of Practical Treatment:

If Inhaled: Remove victim to fresh air.  
Apply artificial respiration  
if necessary.

- e. To be consistent, on the front panel, change "first aid statement" to "Statement of Practical Treatment."

- f. The Environmental Hazards Statement must be revised to read similar to the following:

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and other aquatic organisms. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water or wetlands. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on this label.

- g. The high toxicity of fluvalinate to aquatic species suggest that potential hazard to endangered aquatic organisms could occur upon exposure to residues. Therefore, the following endangered species statements should follow the Environmental Hazards paragraph:

Notify State and/or Federal authorities and Zoecon Corporation immediately if you observe any adverse environmental effects due to the use of Mavrik insecticide.

NOTICE: It is a Federal offense to use any pesticide in a manner that results in the death of a member of an endangered species.

The use of Mavrik insecticide may pose a hazard to the following Federally designated endangered/threatened species known to be found in certain areas within the named locations:

Slackwater darter - Tennessee counties including Lawrence and Wayne. Alabama counties including Limestone, Lauderdale and Madison.

Freshwater Mussels - Headwaters on small rivers in the middle and upper drainage of the Cumberland and Tennessee rivers in Tennessee counties of Claiborne, Hancock, Hawkins and Sullivan and the Virginia counties of Smyth, Washington, Scott, Lee and Grayson. Any tributary of the White or St. Francis rivers in the Arkansas counties of Independence, Jackson, Woodruff, Monroe, Arkansas, Lee, St. Francis, Cross, Poinsett, Greene and Craighead.

Pecos gambusia - Texas counties including Reeves, Jefferson Davis and Pecos. New Mexico counties including Chaves and Eddy.

Comanche Springs pupfish - Texas counties including Reeves and Jefferson Davis.

Dexter National Fish Hatchery - Chaves county, new Mexico.

This product may not be used in these areas where adverse impact on the Federally designated endangered/threatened species is likely.

- h. Delete "ULV Application and its directions" from the label. We do not have residue and toxicology data to support this use direction.
- 6. Submit five (5) copies of your final printed labeling before you release the product for shipment.

You should note that if you fail to satisfy any of the conditions imposed on this registration, e.g. you fail to submit the required data by the specified deadlines or the data submitted were not generated in accordance with the applicable test guidelines, EPA may issue a notice to cancel this amendment under section 6(e) of FIFRA.

You should also note that, regardless of whether you satisfy all applicable conditions, this conditional registration will expire automatically on August 31, 1989. Sale and distribution of the subject product bearing labeling for use on cotton after August 31, 1989, will be illegal. The tolerance authorizing residues of the subject product in cotton will also expire automatically, on August 21, 1990. After that date sale or distribution of food in interstate commerce containing any residues of the subject product will be a violation of the Federal Food, Drug and Cosmetic Act.

Finally, once the required data have been submitted, EPA will entertain an application to amend the registration of the subject product to allow the use on cotton without any special restriction on the duration of the amendment.

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

Sincerely,

George T. LaRocca  
Product Manager (15)  
Insecticide-Rodenticide Branch  
Registration Division

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ACCEPTED  
with COMMENTS  
EPA Letter Dated:

PRODUCT CODE 6102

MAR 3 1 1986

MAVRIK® 2E INSECTICIDE

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
20954-115

- For Use On Nonbearing Fruit & Nut Trees and Vines, and Turf and Certain Crops Grown for Planting Seed.
- For Use On Cotton.

ACTIVE INGREDIENT:

( $\alpha$ RS, 2R)-fluvalinate [(RS)- $\alpha$ -cyano-3-phenoxybenzyl  
(R)-2-[2-chloro-4-(trifluoromethyl)anilino]-3-methyl-  
butanoate]\* ..... 25%

INERT INGREDIENTS: ..... 75%

Contains Petroleum Distillates.

MAVRIK 2E is an emulsifiable concentrate formulation containing 2 pounds ( $\alpha$ RS, 2R)-fluvalinate per gallon (240 g/L).

\*U.S. PAT. 4,260,633 and 4,411,912.  
MAVRIK is a trademark of Sandoz, Ltd.

EPA Registration No. 20954-115  
EPA Est. No.

KEEP OUT OF REACH OF CHILDREN

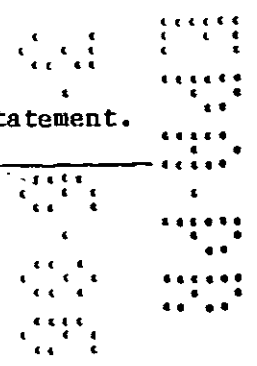
DANGER

Corrosive. Causes eye damage.

Do not breath fumes in can.

See back panel for additional precautionary statements and first aid statement.

ZOECON CORPORATION A SANDOZ COMPANY  
CROP PROTECTION DIVISION  
Palo Alto, California 94304



Made in U.S.A.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS

DANGER

OPEN CONTAINER IN WELL VENTILATED AREA

DO NOT BREATHE FUMES

CORROSIVE TO EYES. Use protective goggles or full face shield when opening or pouring this product.

Avoid Breathing Spray Mist. To avoid potential throat irritation from fine spray particles, use a properly fitted NIOSH approved respirator equipped with an organic vapor/pesticide cartridge and dust and mist prefilter. Harmful if swallowed or absorbed through skin. Avoid contact with eyes, skin or clothing. Wear rubber gloves while handling. Wear protective clothing. Wash exposed skin with soap and water after handling and before eating. Wash contaminated clothing with soap and water before reuse. Sensitive individuals may temporarily experience an itching or burning sensation with or without a rash following exposure. Avoid hand- or sleeve-to-face contact. Prior to exposure, or after washing, an application of certain vegetable oils may reduce these symptoms.

24 Hour Medical or Chemical Emergency Response Phone  
(Collect) (415) 857-0172

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES:

Undiluted Product - Get medical attention immediately. Flush thoroughly with a directed stream of water for 15 minutes during transport to the physician.

Diluted Spray mist - Flush thoroughly with a directed stream of water for 15 minutes. Get medical attention immediately.

IF ON SKIN:

Wash with plenty of soap and water. Get medical attention if irritation persists.

IF SWALLOWED:

Do not induce vomiting. Call a physician. Gastric lavage should be supervised by trained personnel. Product contains hydrocarbon solvent which can be harmful if aspiration occurs.

ENVIRONMENTAL HAZARDS

This product is highly toxic to fish. Use with care when applying in areas adjacent to any body of water. Do not apply to lakes, streams, or ponds. Do not apply when weather conditions favor drift from the target area.

PHYSICAL/CHEMICAL HAZARD

Do not use or store near heat or open flame.

STORAGE AND DISPOSAL

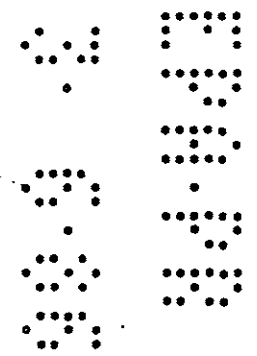
STORAGE: Store away from direct sunlight or heat. Pesticides must be stored in a secured area away from food, feed and other products. In case of spill or leak, ventilate area well, then soak up with soil or other non-alkaline absorbent material.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Pesticide wastes are hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

WARRANTY AND CONDITIONS OF SALE

Zoecon Corporation warrants that the composition of this product conforms to the description on the label and is reasonably fit for the purpose stated on the label when used in accordance with directions under normal conditions of use. Zoecon makes no other warranty, express or implied, concerning the use of this product other than as indicated on the Label. Buyer assumes all risks of use, storage or handling of this material not in strict accordance with directions given on the label.





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## INTRODUCTION

MAVRIK® 2E INSECTICIDE controls insects and controls or suppresses mite pests depending on rates used. MAVRIK works primarily through contact action, so target pests must be exposed to the spray or spray deposits. Good spray coverage is necessary. Treat when pests are young and populations manageable, before crop damage occurs. Repeat as indicated or as needed; generally at five to ten day intervals. Where heavy populations are treated, the shorter interval may be necessary. Good evaluation of performance can generally be made three to four days after treatment. Residues of MAVRIK can continue to control certain insect pests for a week or longer. Growth dilution, climatic variables and pest habits determine treatment needs.

For most pests listed, a range of use rates is given. The higher rates must be selected when pest pressure or damage potential is severe.

Mite populations are suppressed by MAVRIK. For severe infestations, use a specific acaricide.

Dilute MAVRIK 2E in sufficient water to give good spray coverage based on local crop protection experience. Buffer spray water to pH 5-7, if necessary.

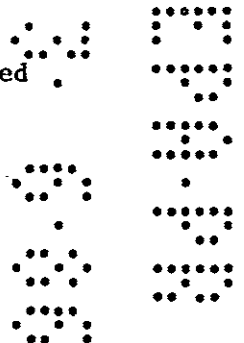
Air: Use five to twenty gallons of water per acre (two to ten gallons for cotton).

Ground: Use a minimum of 5 gallons of water per acre.

ULV Application (cotton only): By air or ground use one to four quarts of ULV grade vegetable oil.

Consult your local Extension office or a Zocon specialist for guidance in selecting a rate and timing schedule that has demonstrated good performance under specific conditions.

POLLINATORS: When MAVRIK 2E is applied during nonforaging periods, dried residues will not interfere with the activity of honeybees.



DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Do not allow entry into treated fields without protective clothing until sprays have dried.

RECOMMENDED APPLICATIONS

COMMODITY	PRE-HARVEST INTERVAL	PESTS	RATE		
			Fl. oz./A	Lb. a.i./A	Acres/Gallon of MAVRIK 2B
COTTON	30 days	Tobacco Budworm	3.6-6.4	0.055-0.1	36-20
		Cotton Bollworm			
		Tarnished Plant Bug			
		Cotton Leafperforator			
		Lygus Bug			
		Cabbage Looper			
		Pink Bollworm			
		Whiteflies			
		Fleahoppers			
		Salt Marsh Caterpillar			
		Boll Weevil (3 to 5 day interval)			
		Cotton Leafworm			
		Garden Webworm			
		Aphids			
		Two spotted Spider Mite (Suppression)			
		Pacific Spider Mite (Suppression)			
		Strawberry Spider Mite (Suppression)	1.6-6.4	0.025-0.1	80-20
		Leafhoppers			
		Thrips (seedling)	0.8-1.6	0.0125-0.025	160-80
		Beet Armyworm	4.8-9.6	0.075-0.15	27-15
		Fall Armyworm			

Do not exceed one-half pound a.i. per acre per season (e.g. 9 applications at 0.055 lbs. a.i. per acre).

Do not replant MAVRIK treated fields (other than cotton) within seven months of last MAVRIK spray.

Do not allow grazing of livestock in treated fields or feeding of treated forage.

Do not use MAVRIK 2E for the following applications where any part of the crop will be used for human or animal consumption. Applications may not be made to trees or vines which will be harvested within one year.

Use MAVRIK 2E after seedstalk formation, or during and after bloom. Do not graze animals in treated areas, or feed gleanings or crop residues to animals.

COMMODITY	PESTS	RATE lb. AI/ACRE
PLANTING SEED CROPS (After seed stalk formation)  brussel sprouts cabbage carrot collard kale lettuce onion parsnip radish spinach swiss chard tobacco	Aphids Flea beetles Midge Thrips Mites	0.025-0.075
	Diamondback moth Lygus plant bugs Loopers (Pea, Alfalfa, Cabbage, Mint) Grasshoppers Stink bug Leafhoppers Corn earworm (and other <u>Heliothis</u> spp.) Imported cabbageworm Cabbage pod Weevils Beetles (Japanese, Mexican bean, Blister, Cabbage flea Leaf, Bean leaf, Black pollen Greenbug) Webworms (Fall, Garden) Leaf tiers Onion maggot Velvetbean caterpillar Green cloverworm	0.05-0.1
	Armyworms Cutworms (Climbing and Surface feeding) Mites Mormon cricket	0.075-0.15
TURF (Use sufficient water to penetrate to pest)	Chinch bugs Earwigs Ticks Ants	0.05-0.15

RECOMMENDED APPLICATIONS

COMMODITY	PESTS	
TURF, Cont.	Lawn Moths (Sod Webworms) Bermuda Mites Crickets Armyworms Brown Dog Ticks Chiggers Clover Mites Cutworms Fleas Leafhoppers Sowbugs Millipedes Springtails (Collembola)	
NONBEARING FRUIT TREES, NUT TREES & VINES	Scales (Crawlers) Mites Leafrollers Stink bug Borers (Lesser peach tree) Cutworms Gypsy moth Tussock moth Leafhoppers Lygus plant bugs Red humped caterpillar Tufted apple budmoth Cankerworms Loopers (Pea, Alfalfa, Cabbage, Mint) Japanese Beetles Rose chafer Webworms (Fall, Garden) Curculios Tent caterpillars Aphids Thrips	RATE lb. AI/ 100 GAL. 0.95-0.1 0.025-0.075