

US EPA ARCHIVE DOCUMENT

250095
Record No.

122804

Review No.

Shaughnessey No.

EEB REVIEW

DATE: IN 8.18.89 OUT 8.24.89

FILE OR REG. NO. _____ 89-TX-22

PETITION OR EXP. NO. _____

DATE OF SUBMISSION _____ 8.06.89

DATE RECEIVED BY EFED _____ 8.18.89

RD REQUESTED COMPLETION DATA _____ 9.02.89

EEB ESTIMATED COMPLETION DATE _____ 9.02.89

RD ACTION CODE/TYPE OF REVIEW _____ 510

TYPE PRODUCTS(S): I, D, H, F, N, R, S _____ Miticide

DATA ACCESSION NO(S). _____

PRODUCT MANAGER NO. _____ D. Stubbs (41)

PRODUCT NAME(S) _____ Abamectin (Avid 0.15 EC)

COMPANY NAME _____ State of Texas

SUBMISSION PURPOSE _____ Proposed Section 18 for use on celery

SHAUGHNESSEY NO.	CHEMICAL AND FORMULATION	% A.I.
_____	<u>Avermectin</u>	_____
_____	_____	_____
_____	_____	_____

ECOLOGICAL EFFECTS BRANCH REVIEW

100.1 SUBMISSION PURPOSE AND PESTICIDE USE

The State of Texas has requested an emergency exemption under Section 18 of FIFRA for the use of avermectin to control spider mites in celery. It is proposed to treat a maximum of 2000 acres in the Rio Grande Valley, primarily in Hidalgo, Cameron, Willacy and Starr counties. The exemption is requested for a period of one year.

100.2 FORMULATION INFORMATION (excerpted from label)

Merck Sharp and Dohme, Avid 0.15 EC Insecticide/Miticide (EPA Reg. No. 618-96)

Active Ingredients:

Avermectin B1 (a mixture of avermectins containing at least 80% avermectin B1a and 20% or less avermectin B1b)..... 2.0%
Inerts:..... 98.0%
Containing 0.15 lb. Avermectin B1 per gallon

100.3 APPLICATION METHODS, DIRECTIONS, RATES (excerpted from submission request)

An application rate of 0.01 lb. ai/ac of avermectin is proposed (equivalent to 8.5 fluid oz. of product per acre.) There will be a maximum of ten applications per growing season. The exemption request does not specify a time interval between applications but the product label allows ten applications at seven day intervals. Only ground application will be allowed.

100.4 TARGET ORGANISMS

Spider mites (Tetranychus spp.)

101.0 HAZARD ASSESSMENT

101.1 TERRESTRIAL SPECIES

A summary of the known toxicity and environmental fate information can be found in a previous review by D. Rieder (4/11/89.) If avermectin is applied at the rate of 0.01 lb. ai/ac, the following residues (ppm) are expected to occur on terrestrial food items immediately after treatment (Hoerger and Kenaga,1972.)

Table with 7 columns: Short Grass, Long Grass, Leafy Crops, Insects Forage, Seed Pods, Fruit. Rows: Maximum, Typical.

These residue levels do not exceed the lowest avian dietary LC50 of 383 ppm nor the avian reproductive NOEL of 12 ppm. Therefore, this exemption poses no hazard to non-endangered birds.

101.2 AQUATIC SPECIES

Because of its low solubility (7.8 ppb), we expect minimal transport of avermectin by runoff (1%). If we assume a pond six feet deep with a surface area of one acre and a watershed of ten acres the expected avermectin concentrations due to runoff would be 0.061 ppb (10 acres x 0.01 lb. ai/ac x 0.01 x 61 ppb = 0.061 ppb.) This is less than the LC50 for shrimp, oysters, and Daphnia. It does not exceed the lowest fish LC50 (rainbow trout, 3.2 ppb.)

Since this is a ground application, drift is expected to be minimal and would not result in hazardous concentrations for aquatic species.

101.3 ENDANGERED SPECIES CONSIDERATION

The only endangered species found in the treatment area are the aplomado falcon (Falco femoralis) and the peregrine falcon (Falco peregrinus). Because avermectin does not have a high bioaccumulation factor and is only moderately toxic to birds, this exemption would not be hazardous to these species.

101.4 ADEQUACY OF THE TOXICITY DATA

The available toxicity database was adequate to conduct a hazard assessment of the emergency exemption request.

101.5 ADEQUACY OF LABELING

EEB is providing the following statements for possible incorporation into supplemental labeling.

"Do not apply directly to water or wetlands (swamps, bogs, marshes and potholes.) Do not contaminate water when disposing of equipment washwater or rinsate."

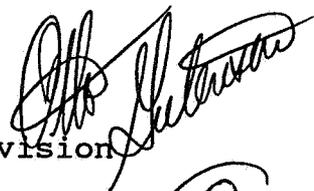
102 CONCLUSIONS

EEB concludes that the emergency exemption request by the State of Texas has little potential for risk to non-target species.

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