113501
SHAUGHNESSEY NO.

15
REVIEW NO.

EEB BRANCH REVIEW

DATE: IN 7/29/81 OUT 8/31/81

FILE OR REG. NO. 100-607

PETITION OR EXP. PERMIT NO.

DATE OF SUBMISSION 7/15/81

RD REQUEST COMPLETION DATE 10/13/81

EEB ESTIMATED COMPLETION DATE

RD ACTION CODE/TYPE OF REVIEW 330/Amendments - Label Revisions- Food Use.

TYPE PRODUCT(S): I, D, H, F, N, R, S Fungicide

DATA ACCESSION NO(S). No new data

PRODUCT MANAGER NO. H. Jacoby (21)

PRODUCT NAME(S) Ridomil 2E

COMPANY NAME Ciba-Geigy

SUBMISSION PURPOSE Proposed conditional registration of hops use

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	& A.I.
113501	Ridomil 2E	25.11 %
	Metalaxyl: N-(2,6-dimethylphenyl) - N - (methoxyacetyl) alanine methyl ester	

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100.0 Pesticide Use

The ammended registration under consideration is the use of Ridomil® 2E on Hops to control Downy Mildew (Pseudoperonospora humuli).

100.1 Application Method/Directions

Apply 0.5 lb. a.i. Ridomil 2E per acre in a minimum of 20 gallons of water to the soil surface over the perennial crowns after pruining, but before training. Early applications before shoots are six inches long is preferable. Do not apply after training or make more than one application per year.

100.2 Application Rate

Ridomil 2E will be applied once in the spring at the rate of 0.5 lb. a.i. per acre using 20 or more gallons of water.

100.3 Precautionary Labeling

The signal word is "DANGER"

Keep out of lakes, streams or ponds. Apply only as specified on this label. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water by cleaning of equipment or disposal of wastes.

101.0 Chemical and Physical Properties.

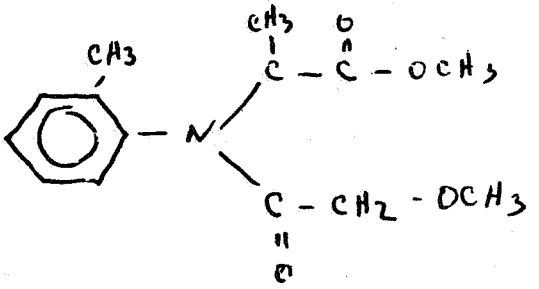
101.1 Chemical Name

N-(2,6 - dimethylphenyl)- N -(methoxyacetyl) alanine methyl ester

101.2 Common Name

Metalaxyl

101.3 Structural Formula



101.4 Molecular Weight 279.34

101.5 Physical State

Technical: odorless tan powder or brown solid material

Formulation: brown liquid

101.6 Solubility

Solubility of technical unknown.

Solubility of the formulated product is as follows:

water	0.7 %
methanole	65 %
benzene	55 %
hexane	0.9 %
isopropanol	27 %

102.0 Behavior in the Environment

See the 6-26-81 review for Ridomil.

103.0 Toxicological Properties

See the appended Section 103 taken form the 6-26-81 review.

104.0 Discussion

VEGETATION RESIDUES

Using the maximum applicaton rate of 0.5 lb. a.i. per acre the estimated residues on various substrates are as follows:

Leaves and leafy crops	65 ppm
long grasses	55 ppm
short rangegrasses	120 ppm
fruit	4 ppm

WILDLIFE UTILIZATION

According to Gusey and Maturgo (Shell Oil Co.), Wildlife Utilization of Croplands (1973), wildlife associated with

hops are; pheasants, quail, songbirds, hawks, owls and morning doves. Not listed but presumed in the area are rodents and other small mammals.

104.1 Likelihood of Exposure to Non-target Organisms.

Exposure to wildlife is likely, however, since metalaxyl is relatively nontoxic to avian and mammalian species, it is unlikely that the relatively small residues will have an adverse effect on wildlife in the area.

Metalaxyl is not expected to enter the aquatic environment.

104.2 Endangered Species Considerations

Since metalaxyl is relatively nontoxic to most species tested and due to the relatively small residues associated with this application rate and technique, there should be little or no hazard to endangered species associated with this use.

107.0 Conclusions

The Ecological Effects Branch has no objection to the conditional registration of Ridomil® 2E for use on hops to control Downy Mildew.

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103.2 Birds

Organism	Test	Results	% Active	Category
Mallard duck	acute oral LD_{50}	1466 mg/kg	Tech	Core
Bobwhite quail	8-day dietary LC_{50}	> 10,000 ppm	"	"
Japanese quail	"	"	"	Supp.
Mallard duck	"	"	"	Core

103.3 Fish.

Organism	Test	Results	% Active	Category
Carp	96-hr. LC_{50}	>100 ppm	Tech	Supp.
catfish	"	"	"	"
bluegill	"	"	"	"
guppy	"	"	"	"
trout	"	150 mg/l	"	Core
bluegill	"	130 mg/l	"	"
rainbow trout	"	132 mg/l	"	"*
"	"	139 ppm	"	"*
bluegill	"	18.4 ppm	Ridomil 2EG	"*
rainbow trout	"	27.0 ppm	"	"*
bluegill	embryo-larvae	MTC >9.1 mg/l	Tech	"*
Fathead minnow				

* USEPA BELTSVILLE LAB

103.4 Aquatic invertebrates

Organism	Test	Results	% Active	Cagetory
Daphnia magna	48 hr. EC_{50}	29.2 ppm	Tech	Supp.
"	"	28 mg/l	"	Core
"	"	121 ppm	"	"*
"	"	12.5 ppm	Ridomil 2EG	"*
"	invertebrate life-cycle	Adverse response between 1.2 & 2.7 mg/l	Tech	Core

* USEPA BELTSVILLE LAB

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.03.1 Mammals

(From reviews by K. K. Locke, 10/31/79 and by S.-L. Chan, Toxicology Branch 3/21/79, based in part on previous revies by W. Woodrow 11/8 & 11/27/78)

Technical (90% A.I.)

Rats - Acute Oral LD_{50} = 669 mg/kg

Rabbits - Acute Dermal LD_{50} > 6 gm/kg

Rabbits - Skin Irritation Index = 0.1/8 = mild irritant

Rabbits - Eye Irritation Index = 9.5/110

Guinea pig - Skin Sensitization - Negative

Mouse - Dominant Lethal - Negative Mutagenic Potential

Formulation - CGA-48988 5W

Rats - Acute Oral LD_{50} >5000 mg/kg; tremors & convulsions

Rabbits - Acute Dermal LD_{50} >10,000 mg/kg; depression & loss of appetite

Rabbits - Eye Irritation - Unwashed: recovery by day 10
washed: no irritation

Rabbits - Skin Irritation - None

Rats - Acute Inhalation LC_{50} >2.97 mg/l

Formulation - Ridomil-2E (27.8% AI; contains [redacted]

Rats -Acute Oral LD_{50} = 1889.48 mg/kg

Rabbits - Acute Dermal LD_{50} = 3571.5 mg/kg

Rabbits - Eye Irritation - Corneal opacity

Rabbits - Skin Irritation - Very slight irritant

Formulation - Ridomil-2EG (27.9% AI; does not contain [redacted]

Rats - Intraperitoneal LD_{50} = 312 mg/kg

Rats - Acute Inhalation LC_{50} - (not determined)

INERT INGREDIENT INFORMATION IS NOT INCLUDED

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