. 102661 -

A N ☑

(15)

EE BRANCH REVIEW

DATE: 9/18/79 IN 1/14/80 OUT IN OUT IN OUT

ECOLOGICAL EFFECTS BRANCH

FILE OR REG. NO. 236
237
3125 - 283

PETITION OR EXP. PERMIT NO. 9F2252 / 9H5236

DATE DIV. RECEIVED 8/16/79

DATE OF SUBMISSION

DATE SUBMISSION ACCEPTED

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

DATA ACCESSION NO(S). 098917

PRODUCT MGR. NO. Jacoby (21)

PRODUCT NAME(S) Nemacur

COMPANY NAME Mobay Chemical Corp

SUBMISSION PURPOSE New Uses, on apples, cherries, and peaches.

CHEMICAL & FORMULATION Ethyl 3-methyl-4-(methylthio) phenyl(1-methy-lethyl) Phosphoramidate

Pesticide Name Nemacur

100 Pesticide Label Information

100.1 Pesticide Use

Nemacur 3, 10G and 15G are currently registered for control of nematodes in cotton, peanuts and other crops. The purpose of this submission is to add the use of Nemacur for nematode control on apple, cherry and peach fruit trees.

100.2 Through 103.1 See related reviews by L. Touart (12/28/79) and by T.F. O'Brien, amended by L. Turner for Nemacur or Citrus (11/25/77) and non-bearing fruit trees (11/29/77).

103 Toxicological Properties

103.2 Minimum Requirements

103.2.1 Avian Acute Oral LD_{50}

Report No.	Species	Compound	LD_{50} (95%C.I.)	Category
66158	Bobwhite Quail	Technical (88%)	0.7(0.5-1.1)mg/kg	Invalid
66158		Sulfoxide	1.8(1.4-2.3)mg/kg	Invalid
66158		Sulfone	1.9(1.2-5.8)mg/kg	Invalid
66158	Mallard Duck	Technical (88%)	1.1(0.9-1.6)mg/kg	Invalid
66158		Sulfoxide	1.5(0.9-2.4)mg/kg	Invalid
66158		Sulfone	1.1(0.8-1.8)mg/kg	Invalid
54137	Mallard Duck	Technical (88%)	0.9(0.8-1.2)mg/kg	Invalid

103.2.2 Avian Dietary LC_{50}

54042	Bobwhite Quail	Technical (88%)	36(31-45)ppm	Core
53668	Mallard Duck	Technical (88%)	316(221-457)ppm	Core
33423a	Japanese Quail	Technical	59(49-71)ppm	Supplemental

103.2.3 Fish Acute LC_{50}

See T.F. O'Brien 11/25/77	Rainbow Trout	Technical (88%)	72.1ppb	Core
54150	Bluegill Sunfish	Technical (88%)	17.7ppb	Core
54150	Bluegill Sunfish	Technical (88%)	9.5(6.8-15)ppb	Core
54150	" "	Sulfoxide	2653(1000-4600)ppb	Core
54150	" "	Sulfone	1173(1000-1500)ppb	Core

103.2.4 Aquatic Invertebrate LC_{50}

54047	Daphnia Magna	Technical(88%)	1.6(1.3-1.9)ppb	Supplementa

103.5 Field Tests

103.5.2 Simulated Field Tests

Report No.	Type	Species	Concentration	Result	Categor
43811	Small Pen	1) Bobwhite Quail 2) Ringnecked Pheasant	40 lb. 15%G/Acre and 27oz 15%G/1000 rr (Row)	Little Hazard	Invalid

103.5.4 Terrestrial Field Test

42063	Avian Field Study	1) Bobwhite Quail 2) Natural Bird Population	133 lbs 15%G/Acre	Little or no Hazard	Inval

104 Hazard Assessment

104.1 Discussion

See reviews by L. Touart (12/28/79) and by T.F. O'Brien, amended by L. Turner (11/25/77).

104.2 Likelihood of Adverse Effects to Non-Target Organisms

See Also Reviews By L. Touart And L. Turner.

Orchards have heavy wildlife utilization, especially by Quail, pheasants, deer, mice, porcupines, ground squirrels, wood chucks and their predators. Orchards, particularly fruit-bearing orchards, are preferred habitat for many songbirds.

Nemacur is highly toxic and the likelihood of exposure to wild species is therefore estimated to be high enough that adverse Ecological Effects are possible. The following comparisons of application rates versus exposure to certain species indicate that acute toxicity risk criteria are exceeded for the granular formulations even with maximum and immediate soil incorporation:

	Surface Residue	Amount Granules/Animal
Bobwhite Quail	$4.16 mg/ft^2$	3.8mg/animal (LC_{50})
White-Footed Mouse	$4.16 mg/ft^2$	0.143mg/animal (LD_{50})
Meadow Vole	$4.16 mg/ft^2$	0.333mg/animal (LD_{50})

The toxic hazard for Nemacur 3 is substantially less when incorporated to 6 inches. The label omission for the immediate incorporation in the bearing fruit tree use should be remedied.

104.3 To See previous reviews.

107

107.0 Conclusions

The Ecological Effects Branch does not concur with the Registration of Nemacur 3, 10G and 15G on apple, cherry and peach trees. There are insufficient fish and wildlife data to complete a hazard assessment (see revised review by L. Touart, 12/28/79).

Leslie Touart 1/28/80
Leslie Touart, Fisheries Biologist, Section 1

Ray Matheny 1/28/80
Ray Matheny, Head, Section 1

Clayton Bushong 1/28/80
Clayton Bushong, Chief, Ecological Effects Branch