

EE BRANCH REVIEW

DATE: 9/18/79 1/14/80
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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) Nema-cur

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 See related reviews by L. Touart (12/28/79)
103.1 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 LD₅₀

<u>Report No.</u>	<u>Species</u>	<u>Compound</u>	<u>LD₅₀ (95%C.I.)</u>	<u>Category</u>
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 LC₅₀

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	Supple- mental

103.2.3 Fish Acute LC₅₀

See T.F. O'Brien	Rainbow Trout	Technical (88%)	72.1ppb	Core
11/25/77	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 LC₅₀

54047	<u>Daphnia Magna</u>	Technical(88%)	1.6(1.3-1.9)ppb	Suppl menta
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103.5 Field Tests

103.5.2 Simulated Field Tests

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

103.5.4 Terrestrial Field Test

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

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:

	<u>Surface Residue</u>	<u>Amount Granules/Animal</u>
Bobwhite Quail	4.16mg/ft ²	3.8mg/animal (LC ₅₀)
White-Footed Mouse	4.16mg/ft ²	0.143mg/animal (LD ₅₀)
Meadow Vole	4.16mg/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.

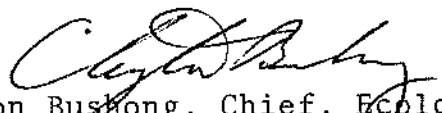
107

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).

 1/28/80
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 1/28/80
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