

REVIEW SUMMARY

101261

13-31-75

J.W. Akerman (1)
Ecological Efficiency
Review Summer 2021

Chemical hark Monitor 4 Spray

Common Monitor

Chemical O,S-dimethyl phosphoramidate 40%

Company Chevron Chemical Company

Submission TEMP PERMIT PETITION SF 571 REGISTRATION 237-5407

Date submitted 11-5-74

Date received 3-31-75

Type of chemical Insecticide

1452 Cabbage, Broccoli, Brussel Sprouts, Cauliflower, Head Lettuce, Cotton,
Potatoes
(See Attached Labeling)

Data submitted for review

Environmental safety:

Mammal LD_{50}

mammal chronic. ✓

Fish

Bird

- Shrimp, crab, oyster _____

Other _____

Environmental chemistry (20-15)

Fish residue

Other _____

Chemical

Conclusions:

- ① New crop added is tomatoes at 0.75 - 1.0 $\frac{\text{lb ai}}{\text{A}}$ on 7-10 day interval.
- ② Adding head lettuce which was previously registered but dropped pending additional field residue studies: 0.5-1.0 $\frac{\text{lb ai}}{\text{A}}$ 7 day intervals.
- ③ Change in cauliflower: From PHI of 28 days to 14 days and ^{max of} 10 pts (5 $\frac{\text{lb ai}}{\text{A}}$)
- ④ Change in Cotton: From PHI of 50 days to "Do not apply after 65% of bolls are open ^{per crop}"
- ⑤ Proposed Tolerances:

cauliflower	_____	2.0 ppm
lettuce	_____	2.0 "
tomatoes	_____	2.0 "
tomato pomace	_____	5.0 "
cottonseed hulls	_____	3.0 "
- ⑥ 2 ppm or less for 90 days + 13 wks for Rats appears to be no effect level.
- ⑦ had data on mallards; need rep. study on birds since Rose one on Offshore.
- ⑧ Label Res: "W-4, W-10, W-21, W-34, W-38, W-38, W-99." Appears O.K.

Recommendations

NAC proposed uses.

An expansion of this product's use to any new crops with large acreages will necessitate dietary LD_{50} studies with mallard duck and avian reproduction studies.

RK 4-75 / ycook

ENVIRONMENTAL SAFETY
DATA ABSTRACT

J. W. AKERMAN
ECOLOGICAL EFFECTS

Chemical O,S-dimethyl phosphoramidothioate 40%

Citation Chevron Chemical Company

Reg. no. 239-2404

Exp permit

Ret. no. SF1571

Submission 11-5-74
DATE

Accession no.

ORGANISM	DOSE	SYMPTOM / EFFECT	TEST MATERIAL
Beagle Dogs ♂♂+♀♀ 90-Day Cholinesterase Study	0.025, 0.075, 0.25 mg/kg/day	① Wt loss at 0.25 mg/kg ② Food consumption less at 0.25 mg/kg. ③ Depressed erythrocyte cholinesterase at 0.25 mg/kg ④ Appears that no adverse effects were noted w/ gains in ♀♀ at 0.025 & 0.075 mg/kg/day except for food consumption.	technical 70% a.i. technical
Beagle Dogs ♂♂+♀♀ 34-WK Cholinesterase Study	0.025, 0.025, 0.050, 0.075, 0.1, 0.125, 0.2, 0.3, 0.4, 0.5, 0.6 mg/kg/day	Minimum effect levels for depression of plasma cholinesterase activity were 0.2 + 0.3 mg/kg/day for ♂♂+♀♀, respectively. Minimum effect level for depression of erythrocyte cholinesterase activity was 0.3 mg/kg/day for both ♂♂+♀♀. No overt signs of cholinesterase depression were observed throughout the study.	75% a.i. No overt signs
Beagle Dogs ♂♂+♀♀ 13-WK Feeding Study	0, 1.5, 5, and 15 ppm	No adverse effects noted except at 5 + 15 ppm levels where anti-cholinesterase activity was observed: activities in plasma & erythrocytes were inhibited.	technical
Rat ♂♂+♀♀ 90-Day Cholinesterase Study	0.3, 1.0, 3.0, and 10.0 ppm	① 0.3 & 1.0 caused no significant depressions of cholinesterase activity. ② 3.0 & 10.0 ppm caused depression of cholinesterase activity.	75% a.i.
Rat ♀♀ 90-Day Cholinesterase Study	0, 0.25, 0.50, 1.0, 2.0, 4.0 ppm	<u>NO EFFECT LEVEL FOR Cholinesterase</u> activity depression = 2.0 ppm. Above 2.0 ppm depression occurs.	technical
Rat ♂♂+♀♀ 13-WK Feeding Study	2, 6, 20, 60 ppm	6 ppm + above had some adverse effects such as anti-cholinesterase activity (6, 20, 60 ppm), decreased food consumption (60 ppm), impaired growth (60 ppm), changes in organ weights (40 ppm).	technical 3

Chevron Chemical Co.

Monitor-NOTES

239-2404

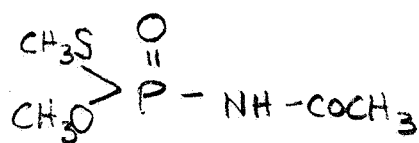
SF1571

submitted 1-5-74

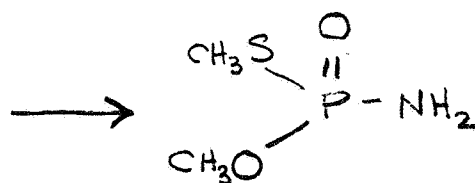
See Orthene

1. Monitor toxic orally to rats & birds; dermally to rabbits; not toxic to fish. Simulated field study showed Monitor 6 EC (a[#] ai/gal) toxic to rabbits but not to quail!

2.



Orthene



Ortho 9006 (Monitor)

Plant & soil metabolite

3. Monitor apparently degrades same as Orthene in soil, i.e. rapidly from 1/2 - 3 days.

4 Previous Registrations

Crop	Rate	# ai/A	Type & Application
Broccoli	0.5 - 1.0	at 7 day intervals	foliage application
Brussels sprouts	0.5 - 1.0	same	" "
cabbage	0.5 - 1.0	same	" "
cauliflower	0.5 - 1.0	same	" "
cotton	0.5 - 1.0	?	" "
potatoes	0.75 - 1.0	7-10 days	" "
lettuce	1.0		

NOTES
Monitor

293-2457
SF/571

4. This Submission

- ① New use appears to be tomatoes
- ② Seeking tolerances on tomatoes, tomato pomace, cottonseed hulls
- ③ Want to increase existing tolerances on lettuce and cauliflower
- ④ Tolerance : $\uparrow$ from 1.0 ppm to 2.0 ppm in or on cauliflower, lettuce, tomatoes
 " at 5 ppm in tomato pomace.
 " " 3 ppm " cottonseed hulls.

Questions:

- ① Why no data on mallards?
- ② What about reproductive studies? Done on Orphene but not on Monitor?

Monitor : 4[#] ai/gal = 0.5[#] ai/pt)

237-2434
SF1571

Crop	Rate	ppm seed
Head Lettuce	max of 8 pts/season = 4.0 [#] ai/A	50 ppm
Sunflower	max 10 pts/season = 5.0 ai/A	60 ppm
Tomatoes	max 16 pts/season = 8.0 ai/A	100 ppm
Cabbage...	assume max 8 pts/season = 5.0 ai/A	60 ppm

LC50 = 57.5 ppm

B. Quail: ave body wgt = 27 gms (~30)

ave food consumed/day = 14 gms (~20)

$$\frac{57.5}{1,000,000} = \frac{x}{20,000 \text{ mg}}$$

$$\frac{33.3}{30} \overline{) 1000.00}$$

$$x = \frac{(57.5 \times 20,000 \text{ mg})}{1,000,000} = \frac{115.0}{100} = 1.15 \text{ mg/ave food consumed/d}$$

$$x = 1.15 \text{ mg/30 gms} = 38.30 \text{ mg/kg/day}$$

$$\begin{array}{r} 1.15 \\ 33.3 \\ \hline 345 \\ 345 \\ \hline 38.295 \end{array}$$

57.5 ppm = 38.30 mg/kg/day based on above

Methamidophos ecological effects review

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Pages 7 through 9 are not included in this copy.

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