

US EPA ARCHIVE DOCUMENT

FILE COPY

Shau. # 098301

Date Out EFB:

NOV 29 1982

To: Frank Sanders - Section Head
Product Manager 12
Registration Division (TS-767)

From: Emil Regelman, (Acting) Head
Review Section No. 1
Environmental Fate Branch
Hazard Evaluation Division (TS-769)



Attached please find the environmental fate review of:

Reg./File No.: FOTE

Chemical: Aldicarb

Type Product: Insecticide/nematicide

Product Name: TEMIK

Company Name: _____

Submission Purpose: Petition for emergency suspension of aldicarb uses from Friends of the Earth.

ZBB Code: other

ACTION CODE: 425

Date In: 11/3/82

EFB # 43

Date Completed: NOV 29 1982

TAIS (level II)

Days

67

4

Deferrals To:

_____ Ecological Effects Branch

_____ Residue Chemistry Branch

_____ Toxicology Branch

1. INTRODUCTION

1.1 Frank Sanders, Section Head (PM-12), has asked EFB to review and comment on a petition for emergency suspension of TEMIK from Friends of the Earth (FOTE). EFB files contain a copy of a similar petition from FOTE dated December 12, 1979.

2. DISCUSSION

2.1 In this review, EFB is commenting only on those statements relating to the environmental fate of aldicarb.

- | | | |
|-------------------|-----|---|
| FOTE
Statement | (1) | "With regard to aldicarb, evidence from Wisconsin suggests that the pesticide does not break down in groundwater over time. Levels in Wisconsin seem to increase in time in the groundwater, rather than decrease which suggests a permanent contamination of aquifers." - from page 2. (Also see the submitted table titled "Contamination of Groundwater in Wisconsin" from page 4 of the petition. Copy attached). |
| EFB
Comment | (1) | The petitioner has submitted the results of one 1982 sampling time and claims that this shows an increase in groundwater contamination over time. In order to substantiate this claim, results of sampling over several years in previously sampled and previously unsampled wells are needed showing increase in aldicarb groundwater contamination over time. |
| FOTE
Statement | (2) | "The past experience with this chemical is that it cannot be kept out of the ground water even with label changes." - from page 5. |
| EFB
Comment | (2) | Certain label changes could conceivably result in no detectable aldicarb groundwater contamination or contamination at toxicologically insignificant levels. However, we have seen no field data supporting this assertion. |
| FOTE
Statement | (3) | "...the probability that Temik has contaminated the ground water in Florida is 100%." - from page 5. |
| EFB
Comment | (3) | Although we are aware of the press reporting groundwater contamination in Florida, EFB has received no data showing aldicarb contamination of Florida groundwater. EFB recommended that Union Carbide sample the more shallow of the two aquifers in Florida to support the claim of no groundwater contamination. Refer to the EFB review of the 1981 groundwater monitoring data dated May 10, 1982, sections 2.3, 3.3 and 4.1. |

4.

CONTAMINATION OF GROUND WATER IN WISCONSIN
 Partial Report of Final Data
 Pesticides in Groundwater, September 13, 1982

<u>Insecticides</u>	<u>SNARL (5)</u>	<u># Tested</u>	<u># Positives</u>	<u>Max. (ppb)</u>	<u>2nd Max. (ppb)</u>	<u>Min. (ppb)</u>	<u># Above SNARL</u>
Aldicarb ⁽⁴⁾ (Temik) Union Carbide	10 ppb ⁽³⁾	13	13	17	14	3	5
Disulfoton (Disyston) Mobay	1 ppb	13	12	100	90	8	11
Carbofuran (Furadan) Mobay	5 ppb	11	5	12	11	2	3
<u>Herbicides</u>							
Aoseb (Atricro) Dow Chemical	12.5 ppb	12	10	74	58	13	10
Alencor (Metribuzin) Mobay	25 ppb	11	3	6	4	2	-
Atrazine (Aatrex) Drexel	215 ppb	11	5	9	4	2	-
Lanuron (Lertox) E. I. DuPont	62.5 ppb	11	1	3	-	-	-
Lasso ⁽²⁾ (Alachlor) Monsanto	1000 ppb	11	0	-	-	-	-
<u>Fungicides</u>							
Bravo ⁽²⁾ (Chlorothalonil) Diamond Shamrock	150 ppb	11	0	-	-	-	-

1) Reported via letter dated September 13, 1982, Kenneth Kissler, EPA Beltsville Lab.

2) Reported together.

3) Advisory.

4) Aldicarb and Aldicarb Sulfone reported separately. These figures based upon sum.

5) From Wisconsin DHSS

FOTE Statement (4) "We petition EPA to issue an emergency suspension of the registration of aldicarb until the manufacturer can find a way to make it non-soluble in water, so that the groundwater is not contaminated with this chemical." - from page 6.

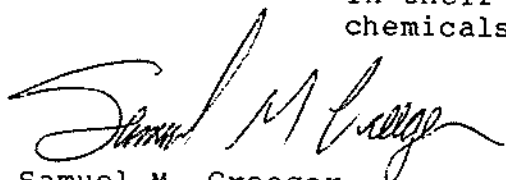
Also,

"We have petitioned you to issue an emergency suspension of the registration of aldicarb until the manufacturer can develop a product that is not systemic (contaminating the crop and food product) and that is not water soluble (contaminating the drinking water)." - from page 7.

EFB Comment (4) In these statements, FOTE is not only asking that aldicarb be made non-soluble in water and non-systemic but that it be made non-efficacious also. The request is like removing a fish's fins and then asking it to swim! Aldicarb works by being water soluble, leaching to the root zone (where it controls the nematodes), being taken up by the roots and being translocated (systemically) throughout the plant (thereby controlling insects that suck the plant juices).

FOTE Statement (5) "We petition E.P.A. to develop a ground water purity and safety strategy for all pesticides including aldicarb, to forbid the use of chemicals that are excessively water soluble." - from page 7.

EFB Comment (5) Does FOTE suggest forbidding registration of pesticides based only on water solubility? If so, then use of diquat and paraquat, which are freely soluble in water but do not leach, would have to be canceled. So would the relatively water soluble pesticides acifluorfen, alar, amitrole, difenzoquat, bentazon, sulfuric acid and many others which, due to many factors, do not result in groundwater contamination. It appears FOTE should also include leachability, toxicology, soil stability, application rate, application timing and geographical use area in their formula for forbidding use of pesticide chemicals.



Samuel M. Creeger
November 29, 1982
Section #1/EFB
Hazard Evaluation Division

REGISTRATION DIVISION DATA REVIEW RECORD
Confidential Business Information - Does Not Contain National Security Information (E.O. 12065)

4942
11-3-82

1. CHEMICAL NAME ALDICARB			
2. IDENTIFYING NUMBER FOTE	3. ACTION CODE 425	4. ACCESSION NUMBER	TO BE COMPLETED BY PM
			5. RECORD NUMBER 82320
			6. REFERENCE NUMBER
			7. DATE RECEIVED (EPAI) 10-14-82
			8. STATUTORY DUE DATE
			9. PRODUCT MANAGER (PM) Sanders
			10. PM TEAM NUMBER Section Head (PM-12)

14. CHECK IF APPLICABLE

<input type="checkbox"/> Public Health/Quarantine	<input type="checkbox"/> Minor Use
<input type="checkbox"/> Substitute Chemical	<input type="checkbox"/> Part of IPM
<input type="checkbox"/> Seasonal Concern	<input type="checkbox"/> Review Requires Less Than 4 Hours

ph

TO BE COMPLETED BY PCB	
11. DATE SENT TO HED/TSS 11/3/82	
12. PRIORITY NUMBER 20	
13. PROJECTED RETURN DATE 12/3/82	

15. INSTRUCTIONS TO REVIEWER

A. HED Total Assessment - 3(c)(5)
 Incremental Risk Assessment - 3(c)(7) and/or E.L. Johnson memo of May 12, 1977.

B. SPRD (Send Copy of Form to SPRD PM)
 Chemical Undergoing Active RPAR Review
 Chemical Undergoing Active Registration Standards Review

C. BPSD
D. TSS/RO
E. Other

F. INSTRUCTIONS
Please review the attached information and forward your comments by C.O.B Dec. 2, 1982

6. RELATED ACTIONS

7. 3(c)(1)(D)

Use Any or All Available Information Use Only Attached Data
 Use Only the Attached Data for Formulation and Any or All Available Information on the Technical or Manufacturing Chemical.

18. REVIEWS SENT TO

TB EEB EF PL
 PCB EFB CH BPSD

To	TYPE OF REVIEW	NUMBER OF ACTIONS							
		Registration	Petition	EUP	SLN	Sec. 18	Inert	MNR. USE	Other
	TOXICOLOGY								
	ECOLOGICAL EFFECTS								
	RESIDUE CHEMISTRY								
	ENVIRONMENTAL DATA								
	CHEMISTRY								
	EFFICACY								
	PRECAUTIONARY LABELING								
	ECONOMIC ANALYSIS								