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Shaugh. No. 098301

EAB Log Out Date: JAN 9 1987

Init.: dr

To: B. Kapner
Product Manager 65
Registration Division (TS-767)

From: Carolyn K. Offutt, Chief
Environmental Processes and Guidelines Section
Exposure Assessment Branch, HED (TS-769)

Carolyn K. Offutt

Attached, please find the environmental fate review of:

Reg./File No.: 177-701

Chemical: Aldicarb

Type Product: I/N

Product Name: Temik

Company Name: Union Carbide

Submission Purposes: Letter and attachments from Ken Kuhl,
Florida Dept. of Agr. & Cons. Ser., to D. Stubbs describing
legislation and aldicarb-related activities in Florida

Action Code: 870

Date In: 7/24/86

EAB#: 6738

Date Completed: 12/29/86

TAIS (Level II) Days

Deferrals To:

102

2

Ecological Effects Branch

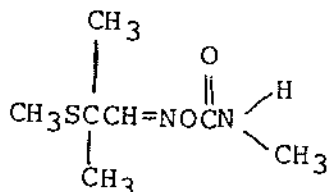
Residue Chemistry Branch

Toxicology Branch

EVALUATION OF FLORIDA ALDICARB-RELATED INFORMATION

1. CHEMICAL:

Chemical name: 2-Methyl-2(methylthio)propionaldehyde O-(methylcarbamoyl)oxime
Common name: Aldicarb
Trade name: Temik
Structure:



2. TEST MATERIAL:

not applicable

3. STUDY/ACTION TYPE:

Review of information supplied by Florida Department of Agriculture and Consumer Services relating to aldicarb legislation, aldicarb monitoring, and the aldicarb registration process.

4. STUDY IDENTIFICATION:

Title: letter and attachments from Kenneth A. Kuhl to Donald Stubbs
Author: not applicable
Submitted by: Florida Department of Agriculture and Consumer Services
Mayo Building
Tallahassee, Florida 32301
Issue Date: 7/15/86
Identifying No: 177701

5. REVIEWED BY:

Matthew N. Lorber, Acting Team Leader
Ground Water Team/EAB/HED

Matthew Lorber Date 1/9/87

6. APPROVED BY:

Carolyn K. Offutt, Chief
Environmental Processes and Guidelines Section/EAB/HED

Carolyn Offutt Date 1/9/87

7. CONCLUSIONS:

There is some interesting and valuable information in this package which should be retained in EAB files for future use and reference. However, there is no critical information which would warrant inclusion into the aldicarb PD 2/3.

8. RECOMMENDATIONS:

Aldicarb monitoring and use information from this package is attached to this review, and summarized in the Discussion Section. Other information, such as the Florida legislation will be copied and retained in Matt Lorber's files on aldicarb.

9. BACKGROUND:

Donald Stubbs of the Special Review Branch requested this information from the Florida Department of Agriculture and Consumer Services (DACS).

10. DISCUSSION

Attachments A-E will be briefly summarized. Attachments D and E will accompany this review, since they present monitoring and use information.

Attachment A: This attachment summarizes the history of the ban of aldicarb in Florida in 1983 following the finding in Jan of 1983 of low residues in aldicarb in a well. It also summarizes research efforts underway in Florida to study the problem. This attachment is dated 9/1/83. A second part of this attachment is dated 9/16/83. It is written in news style and also summarizes the ban on aldicarb and planned reinstatement in 1984. It also summarizes issues in Florida concerning EDB.

Attachment B: This contains the rules for aldicarb use and application as published in the Florida Administrative Code.

Attachment C: This attachment contains a letter dated 3/21/86 to a prospective aldicarb applier explaining the special procedures he would need to follow in order to apply aldicarb, since his farm is in the area of highly permeable soils. The second part of this attachment is a general notice to aldicarb applicators explaining the procedures for application. They list the following counties as those having areas of highly permeable soils: Citrus, Hardee, Hernando, Highlands, Hillsborough, Lake, Marion, Orange, Pasco, Polk, Putnam, Seminole, Sumter, and Volusia. Certain procedures concerning descriptions of nearby wells in these counties are necessary if application is planned to be made and a drinking

water well is between 300 and 1000 feet of the citrus field. This attachment concludes with a "Proposed Amendment" outlining this well description procedure, and a "Product Bulletin" from Union Carbide which states that: "...TEMIK® Aldicarb Pesticide cannot be used in Florida Citrus within 1,000 feet of a drinking water well, when soils (such as Astatula soils) have a permeability rate of greater than 20 inches per hour with an available water capacity of less than 0.06 in all layers to a depth of 80 inches as identified by the U.S.D.A. Soil Conservation Service, unless it is known that such wells are either cased to 100 feet below ground level or a minimum of 30 feet below the water table.

"The U.S.D.A. Soil Conservation Service which serves your county can tell you if the soils in your grove(s) fall within this category".

This quote is noteworthy for two reasons: 1) it describes a soil with permeability and available water holding capacity. The Ground Water Team has been pushing for label statements with similar soil descriptors, although the particular soils described above are the absolute worst case soils, almost like a beach sand, and the Ground Water Team would instead describe a sand or loamy sand soil of not so drastic vulnerability characteristics, and 2) the label involves the Soil Conservation Service in an important role in the process. It would be interesting to see if this role was agreed upon by the Soil Conservation Service.

Attachment D: This attachment is included with this review. It contains water monitoring data for FY 84/85 and FY 85/86. In FY 84/85, 630 samples were taken with 22 positives. The county with the most positives was Polk, with 13 of 75 samples positive, and a high finding of 12.3 ppb. In all, 6 of 29 counties had at least one positive. In FY 85/86, 19 of 251 samples were positive, with the highest findings in Hardee County: 14 of 32 positive with a high of 36.3 ppb aldicarb residues. In all, 4 of 14 counties had at least one finding. The summary for FY 85/86 also had results of surface water sampling, where 22 of 52 samples were positive and also high findings in Hardee County: 20 of 27 samples positive and a high of 20.1 ppb.

The problem with this monitoring data is that there is no information at all about the well monitoring program. How were the wells chosen? What are well depths? What is the relationship of the wells and the nearest treated field? This information is necessary before making a conclusive statement about the implications of this monitoring program.

Attachment E: This attachment is included with this review. It summarizes the total use of aldicarb in CY 1984, 1985, and 1986 as determined by the applicator program. On the average, 24,000 acres of potatoes and 190,000 acres of citrus were treated each year. This translated to 68,000 lb ai on potatoes and 831,000 lb ai on citrus per year. Whereas this information is useful, it would have been even more useful if breakdown by county were given.

84/85

WATER SAMPLES TAKEN & ANALYZED FOR TEMIK

Attachment "D"

County	Samples Taken	Temik Found	LOW & HIGH PPB		Metabolites
			Sulfoxide	Sulfone	
Alachua	1	0			
Alford	8	0			
Collier	1	0			
DeSoto	24	0			
Flagler	1	0			
Hamilton	2	0			
Hardee	29	1			
Hendry	4	0		.65	
Highlands	75	13			
Hillsborough	66	1	(.62-6.96)	(.63-5.05)	12.30
Indian River	2	0	1.89	3.15	
Jackson	43	0			
Lake	33	0			
Lee	7	0			
Madison	4	0			
Manatee	6	0			
Marion	6	0			
Martin	27	0			
Orange	17	0			
Osceola	3	0			
Palm Beach	4	0			
Pasco	33	0			
Polk	157	5			
Putnam	12	0	1.00	(.95-1.73)	
St. Johns	32	1			
St. Lucie	1	0	.65	.97	
Sarasota	10	0			
Suwannee	3	0			
Volusia	19	1			
TOTAL	630	22	.90 (.62-6.96)	.77 (.63-5.05)	12.30

Attachment E

FLORIDA



FLORIDA DEPARTMENT OF AGRICULTURE & CONSUMER SERV

DOYLE CONNER, COMMISSIONER

* MAYO BUILDING

TALLAHASSEE 32301

July 9, 1986

MEMORANDUM

TO: Ken Kuhl
FROM: Jim Christie
SUBJECT: TEMIK APPLICATIONS,
CY 1984, 1985, 1986

Listed below are specifics from our records on applications of TEMIK in Florida for the above calendar years, broken down into citrus and potato usage, and TOTAL ALL CROPS.

<u>YEAR</u>	<u>CROP</u>	<u>ACRES TREATED</u>	<u>TEMIK lbs/15G</u>
1984	Citrus use	199,723 acres	6,477,214
	Potato use	19,004 acres	370,270
TOTAL ALL CROPS		215,145	7,061,122
1985	Citrus use	206,958 acres	6,501,397
	Potato use	27,096 acres	518,193
TOTAL ALL CROPS		245,390 acres	7,165,988
1986	Citrus use	161,871 acres	3,635,034
	Potato use	26,177 acres	471,186
TOTAL ALL CROPS		195,777 acres	4,198,968

Attached is a copy of letter sent to holders of pending notifications of intent to apply aldicarb (Temik) requesting soil type information for the sites to be treated.

A copy of use restrictions on supplemental label of TEMIK 15G Aldicarb Pesticide for citrus is attached.

A September 16, 1983 DACS Press Release plus a summary of status of TEMIK by the writer in 1983 is also attached for background.

JRC:cw

Attachment

cc: Dr. Roger Inman
Mr. Paul Crisp

