

US EPA ARCHIVE DOCUMENT

098301



Shaugh. No. 098301

EAB Log Out Date: JAN 03 1986

Init.: SK

To: J. Ellenberger
Product Manager 12
Registration Division (TS-767)

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

Attached, please find the environmental fate review of:

Reg./File No.: 264-330 and -331

Chemical: Aldicarb

Type Product: I/N

Product Name: Temik

Company Name: Union Carbide

Submission Purposes: Response to Union Carbide's rebuttal
to registration standard which included restrictions to
potato use

Action Code: 616

Date In: 10/3/85

FFB#: 6014 and 6015

Date Completed: 1/2/86

TAIS (Level II) Days

31

1

Deferrals To:

Ecological Effects Branch

Residue Chemistry Branch

Toxicology Branch

REVIEW OF ALDICARB LABEL PERTAINING TO POTATO RESTRICTIONS

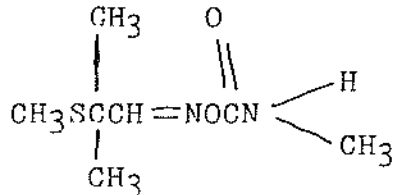
1. CHEMICAL:

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 Union Carbide's rebuttal to registration standard requirement of a specific statement be included on aldicarb label - statement pertained to potato use in several counties.

4. STUDY IDENTIFICATION:

Title: Proposal for Additional Label Revisions to Reduce Potential Contamination of Groundwater and Drinking Wells

Author: Union Carbide

Report No: 264-330 and 264-331

Submitted by: Union Carbide

Issue Date: 10/3/85

Accession No: 159711 and 159712

5. REVIEWED BY:

Matthew N. Lorber, Agricultural Engineer Matthew Lorber Date 12/85
Environmental Processes and Guidelines Section/EAB/HED

6. APPROVED BY:

Carolyn K. Offutt, Chief Carolyn Offutt Date 1/2/86
Environmental Processes and Guidelines Section/EAB/HED

7. CONCLUSIONS:

Agreement with Union Carbide on both counts: that a restriction pertaining to timing of application should be state-wide rather than county specific, and that restriction pertaining to application every other year only should not appear on label.

8. RECOMMENDATIONS:

Union Carbide's suggestion of adding a timing restriction to potato use (p. 41 and 42 of enclosed UC statement) in several states is most appropriate.

9. BACKGROUND

Stuart Cohen reviewed Union Carbide's label amendment to aldicarb, which was transmitted to EPA on 10/15/84. His review, dated 1/31/85 and filed under Reg./File No. 264-330, did not respond to Union Carbide's rebuttal to the following statement which was required by the aldicarb registration standard:

Do not apply to any field in the state of Maine or Wisconsin or the counties of Hartford, Ct; Kent and New Castle, De; Franklin and New Hampshire, Ma; Worcester, Md; Atlantic, Burlington, Cumberland, Monmouth and Salem, NJ; Newport and Washington, RI; Accomack and Northampton, VA more than once every two years and only after plant emergence.

Union Carbide rebutted this statement in their submittal of 10/15/84, saying that they agreed with the timing restriction ("only after plant emergence") and proposed extending it statewide to the following states: CT, DE, MA, MD, NH, NY, PA, RI, VA, and VT, but disagreed with the "once every two years" restriction, saying that aldicarb does not build up from year to year and that this restriction has no effect on the appearance of residues in ground water.

10. DISCUSSION

Wisconsin is the only state to have restricted aldicarb use on potatoes to once every two years. They are able to do so because their unique legislation governing the use of aldicarb includes the specific registration of aldicarb use for every field. In so doing, they are able to restrict the sale to farmers who did not use aldicarb the previous year. Without this "prescription" method of the sale of aldicarb elsewhere, this every-other-year restriction becomes difficult, if not impossible, to administer. More importantly, however, is the fact that there is no evidence that Wisconsin's law has halted the appearance of aldicarb residues in ground water. Rather, there is evidence that aldicarb residues continue to migrate to ground water. Also part of Wisconsin's law is a "moratorium" law which restricts the use of aldicarb in an approximate one-mile radius around wells found to be contaminated with aldicarb at levels above 10 ppb. This moratorium is in effect one growing season following a finding. Enacted in 1982, new moratoriums were in effect during 1983, 1984, and for 25 locations in 1985. This alone is evidence that a once-every-two-years restriction does not halt the appearance of aldicarb in wells

the 10 ppb limit. In their rebuttal, Union Carbide also cites modeling studies which show that this restriction will, at best, decrease the maximum residues by about 25%. Without scrutinizing these modeling studies in detail, this reviewer would agree qualitatively (though not necessarily quantitatively) with this result. Union Carbide also points out that a timing restriction is a very effective means to reduce concentrations in groundwater, i.e., that applications at potato emergence rather than planting will reduce concentrations by a factor of 4, based on their modeling studies. Again, without commenting on the quantitative soundness of this statement, this reviewer's own experience with modeling of aldicarb on potato shows that an application at emergence rather than planting will reduce leaching of aldicarb due to avoidance of heavy spring rains, and an apparent enhanced rate of degradation due probably to a warmer soil environment which enhances conditions for microbial degradation. Finally, Union Carbide states, "Statewide use provisions eliminate confusion and inconsistencies across county lines and extend the protection provided by this technique (sic, timing restrictions) to all potato growing areas in these states." In addition to "confusion and inconsistencies", a trend towards specific restrictions for specific counties would eventually lead to a totally unmanageable label.