

US EPA ARCHIVE DOCUMENT

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EAB Log Out Date: 4/17/87

To: Bob Taylor  
Product Manager 25  
Registration Division (TS-767)

From: Carolyn K. Offutt *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.: 524-316

Chemical: Alachlor

Type Product: Herbicide

Product Name: Lasso

Company Name: Monsanto

Submission Purposes: Review of ground water monitoring  
study

Action Code: 660

EAB #(s): 6871-2

Date In: 9/5/86

TAIS Code: 102

Date Completed: 3/6/87

Total Reviewing Time: 1

Monitoring study requested:       

Monitoring study voluntarily:   x  

Deferrals To:

       Ecological Effects Branch

       Residue Chemistry Branch

       Toxicology Branch

(1)

REVIEW OF GROUND WATER MONITORING STUDY

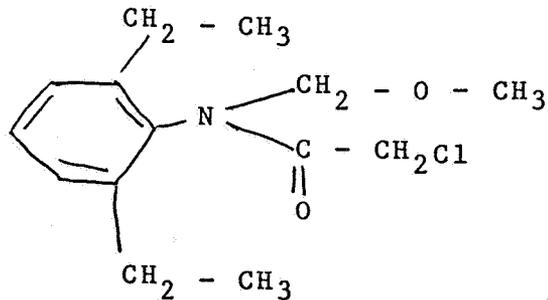
1. CHEMICAL:

Chemical name: 2-Chloro-2,6-diethyl-N-(methoxymethyl)-acetanilide

Common name: Alachlor

Trade name: Lasso

Structure:



2. TEST MATERIAL:

Not applicable

3. STUDY/ACTION TYPE:

Review of ground water monitoring study of alachlor conducted by Monsanto in 1985.

4. STUDY IDENTIFICATION:

Title: Assessment of Occurrence of Alachlor in Water from Rural Private Domestic Wells - 1985 Monitoring Program

Author: Monsanto Agricultural Products Company  
800 North Lindbergh Boulevard  
St. Louis, MO 63167

Identifying No: 524-316

Accession Nos: 263004, 263005, 263006, 263007

Issue Date: 5/27/86

Record No: 179856

5. REVIEWED BY:

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

Matthew Lorber Date 4/17/87

6. APPROVED BY:

Carolyn O'futt, Chief  
Environmental Processes and Guidelines Section/EAB/HED

Carolyn O'futt Date 3/13/87

7. CONCLUSIONS:

This study was not done with an approved protocol, and hence the results of the study cannot be considered to meet any registration or other requirements imposed on Monsanto by the Agency. Currently, Monsanto is beginning a nationwide ground water monitoring study for alachlor under an approved protocol.

8. RECOMMENDATIONS:

Retain the results for future possible reference.

9. BACKGROUND:

The Registration Standard for Alachlor, issued on Nov. 21, 1984, required that Monsanto conduct surface and ground water monitoring programs during 1985. This study was to have met the ground water monitoring requirement. However, the protocol for this study was initially submitted in Aug of 1985, after the actual study had begun. The protocol was rejected verbally by Stuart Cohen, and officially by an EAB review dated 12/29/86 (EAB # 5828). Monsanto has since retained the services of Research Triangle Institute in North Carolina who have drafted a protocol acceptable to the Agency (EAB # 70274). This ground water monitoring study is scheduled to begin in March of 1987, with a proposed completion date of December, 1989.

10. DISCUSSION:

Briefly, 246 wells from 15 counties in 9 states were sampled twice in 1985, July and October. A total of 100 wells in 6 counties in Georgia, Alabama, and North Carolina were selected to represent high peanut - high alachlor use areas. A total of 146 wells in 9 counties in Iowa, Indiana, Illinois, Wisconsin, and Minnesota were selected to represent high corn and soybean - high alachlor use areas. Of the 246 wells sampled, alachlor was found in at least one of the two samplings of 10 wells. Monsanto claims that two of these wells were point source, and of the remaining 8 wells, the range was 0.21-1.30 ppb, and 7 had levels less than 0.70 ppb. Based on the results of this study, Monsanto concludes that, "These data, coupled with a clear lack of any extensive contamination of any one area, support existing data, which indicate alachlor does not exhibit any significant propensity to leach to groundwater." (from a letter from Stephen Muench, Registration Manager for Monsanto to Robert Taylor, Product Manager in RD, dated 5/23/86 and submitted with this package).

Because this study was done without an approved protocol, and an approved study is now underway by Monsanto, extensive evalua-

tion of this study (which covers 4 volumes of information) is unwarranted. However, an examination of the well information provided indicates that Monsanto may not have achieved their objective: to sample from rural domestic drinking water wells that can be considered to have the highest potential for contamination based on sales and hydrogeologic information. Although the use information is not in question, and perhaps (without an extensive review of supplied soil information) the top soil of counties sampled were adequately characterized, information on the wells indicated that only 17 of the 246 wells, approximately 7%, were under 30 ft deep. In contrast, 127 of the wells (52%) were over 100 feet deep, with the remainder, 102 wells (41%), between 30 and 100 feet deep.

Comparing well depths to the soil classification scheme developed for the survey revealed some interesting trends. The top soil in each county surveyed was placed in one of 6 strata, LL to HH, where permeability was either low ( $\leq 2$ " / hr) or high ( $> 2$ " / hr), and organic matter was either low ( $> 5\%$ ), medium (1-5%), or high ( $< 1\%$ ). In the peanut counties, only 6 of 100 wells were shallow. Of these 6, 5 were in Hertford, North Carolina, classified as ML (medium organic matter, low permeability), which was the least vulnerable county of the 6 peanut counties. This same county had the most wells sampled of the peanut counties, 34, and 28 of these wells were over 100 ft deep. The three peanut counties rated HH had only 30 wells sampled, of which only 1 (3%) was shallow. The corn and soybean counties had a more reasonable distribution of the shallow wells, although none of the 9 counties were rated HH. Of 11 wells rated shallow, 6 were in Knox, IN, rated as MH, 2 were in Fayette, OH, rated HL, 2 were in Decatur, IN, rated ML, and one was in Paldoski, IN, rated LH. Based on this information, particularly the percent of shallow wells sampled, it can be concluded that there was not an adequate sampling of shallow wells (with the assumption that shallow wells are the most vulnerable).

#### 11. CBI INFORMATION:

Attached to this review is Tables 22, 25, and 26 which list the positive findings. Two positives not attributable to point sources were noted in corn/soybean regions, and the remaining 6 were found in peanut regions. A quick check of all positive well findings showed them to be in the moderate well depth range (30-100 ft).

RIN 2858-00

Alachlor EFED Review

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Pages 5 through 7 are not included.

The material not included contains the following type of information:

- Identity of product inert ingredients.
- Identity of product impurities.
- Description of the product manufacturing process.
- Description of quality control procedures.
- Identity of the source of product ingredients.
- Sales or other commercial/financial information.
- A draft product label.
- The product confidential statement of formula.
- Information about a pending registration action.
- FIFRA registration data.
- The document is a duplicate of page(s)     .
- The document is not responsive to the request.

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.