

Shaughnessy No.:059101

Date Out of EAB: **DEC 8 1983**

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

From: Samuel Creeger, Head 
Review Section #1
Exposure Assessment Branch
Hazard Evaluation Division (TS-769)

Attached, please find the EAB review of...

Reg./File No.: 464-562

Chemical: O,O-diethyl-O-3,5,6-trichloro-2-pyridyl-phosphorothioate

Type of Product: Insecticide

Product Name: Dursban TC

Company Name: Dow Chemical Co.

Submission Purpose: Data to support label amendment:use in plenum houses.

ZRR Code: other

Action Code(s): 311

Date In: 9/30/83

EAB #(s): 3553

Date Completed: 12/8/83

TAIS (level II)

Days

63

4.0

Deferrals to:

 Ecological Effects Branch

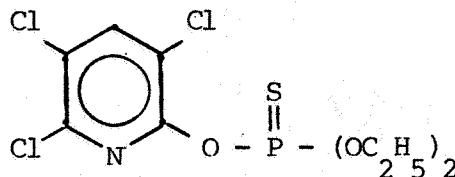
 Residue Chemistry Branch

 Toxicology Branch

1.0 INTRODUCTION

The registrant (Dow) has submitted data to support the request for an amendment to the Dursban label to include use in plenum houses. The principle concern here relates to possible human exposure to chlorpyrifos in the air and on surfaces resulting from the treatment of crawlspace areas for termite control.

2.0 STRUCTURE



Chlorpyrifos: O,O-diethyl-O-3,5,6-trichloro-2-pyridyl-phosphorothioate

3.0 DIRECTIONS FOR USE

A copy of the Dursban TC label (#464-562) is appended to this review. The relevant sections are blocked out.

A thorough review of the directions for use suggest inadequate directions. Specifically...

- °° What would the actual application rate be (i.e. how much active ingredient per square foot of subterranean soil)?
- °° What is the permissible treatment area (distance from wall at the perimeter of the crawl space)?
- °° Is spraying of the walls permissible? At what rate?
- °° What about treatment of subsurface exposed wood (joists, flooring)?

4.0 SUBMITTED DATA

The following submitted items (none with accession numbers) were submitted and reviewed.

- 4.0.1 Page, Judith L. Letter to Dennis Edwards on September 21, 1983.
- 4.0.2 Page, Judith L. Letter to Dennis Edwards on November 4, 1983.
- 4.0.3 Ellenberger, J. S. Letter to D. H. Naffziger on June 7, 1983.
- 4.0.4 Confidential Statement of Formula. Dated October 14, 1980
- 4.0.5 ATTACHMENT 2c. Summary Letter from J.R. Vaccaro to S.R. Johnson for data from 21 month sampling on Houses #1 and #2. Raw data from sampling including pump calibration, sample information including total volume and analytical data.
- 4.0.6 Ellenberger, J. S. Letter to D. H. Naffziger on June 14, 1983.
(continued)

- 4.0.7 Naffziger, D. H. Letter to Jay Ellenberger on February 22, 1983. Includes the data collected on chlorpyrifos in plenum-type homes. Industrial Hygiene Laboratory, Dow Chemical U.S.A., Midland, Michigan, by J.R. Vaccaro
- 4.0.8 Naffziger, D. H. Letter to Jay Ellenberger on August 20, 1982.
- 4.0.9 Vatne, Robert E. Letter to Jay Ellenberger on October 16, 1980.
- 4.0.10 Naffziger, D. H. Letter to Vatne, Robert E. on October 3, 1980.
- 4.0.11 Analytical Method ML-AM-80-56 dated August 11, 1980. Determination of chlorpyrifos in acetonitrile solutions.
- 4.0.12 Naffziger, D. H. Letter to Vatne, Robert E. on October 10, 1980.
- 4.0.13 Attachment 2A. Raw data for initial sampling - analytical report and wipe tests.
- 4.0.13 Dow Confidential Information. AL 81-50623. January 11, 1982. Summary of extraction and analytical procedures used with charcoal tubes, with carbowax 400/Porasil F tubes and with filter paper wipes. Includes results of sampling.
- 4.0.14 Wipe test records for 4 houses in Fresno, California. 9/23/81
- 4.0.15 Attachment 2B. Raw data for 4.5 month sampling on houses 1 & 2. Includes sampling volume and information and analytical data.
- 4.0.16 Melcher, Richard G. et.al. Collection of Chlorpyrifos and Other Pesticides in Air on Chemically Bonded Sorbents. Anal. Chem 50, 2. February, 1978 pp. 251-255. 13 references.

5.0 DISCUSSION

We do not wish to make specific comments on the submitted data at this time due to the extremely disorganized nature of the submission. It is not incumbent on EAB to reassemble the pastiche of documents submitted by this registrant into a coherent evaluation of the estimated exposure of residents resulting from the application of chlorpyrifos to four plenum-type houses.

General observations include the following:

- 5.0.1 The choice of test sites was not supported by statistical reasoning.
- 5.0.2 The experimental conditions used in this study were not controlled and were clearly inconsistent from house to house.
- 5.0.3 Sampling at each house was probably not for a sufficient period of time, nor were sufficient samples taken to generate statistically significant data.
- 5.0.4 No data were submitted to prove storage stability of the samples taken for analysis.
- 5.0.5 Results at 4 months suggest sustained high levels of chlorpyrifos in the air of the two homes tested.

6.0 CONCLUSIONS

As submitted, this study cannot support the proposed label amendment to include use in plenum houses.

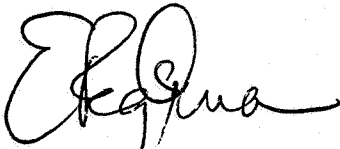
7.0

RECOMMENDATION

We recommend that the registrant not base their request for an amendment to the Dursban label (to include use on plenum houses) based on the data submitted, due to its obvious inadequacies.

If, nevertheless, Dow wishes to reassemble all relevant data into a technically complete and scientifically accurate document, EAB would be willing to review that submission in its entirety and to reconsider its position on this issue.

Alternatively, the registrant could submit a complete, detailed experimental protocol for a new indoor air monitoring study. EAB would then be willing to meet with the registrant to discuss specific deficiencies or needed modifications, if necessary.

A handwritten signature in dark ink, appearing to read 'E. Regelman', is written over the typed name.

Emil Regelman
Chemist
EAB/HED
December 8, 1983