

US EPA ARCHIVE DOCUMENT

3-20-85

Shaughnessy #: 059101

Due Date: 3/28/85

Init: Hgh for SMC

CM 3/20/85

MAR 20 1985
MAR 20 1985

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

From: Joseph C. Reinert, Ph.D., Chief
Special Review Section
Exposure Assessment Branch
Hazard Evaluation Division (TS-769C)

Attached please find the EAB review of...

Reg./File No.: 464-562

Chemical: Chlorpyrifos

Type Product: Termiticide

Product Name: Dursban TC

Company Name: Dow Chemical Company

Submission Purpose: Review of Indoor Air Monitoring Protocol

ZBB Code: _____

ACTION CODE: 352

Date In: 02/28/85

EAB # 5345

Date Completed: 3/19/85

TAIS (level II) _____ Days _____

Deferrals To:

_____ Ecological Effects Branch

_____ Residue Chemistry Branch

_____ Toxicology Branch

11

Dow Chemical Company has submitted a protocol for monitoring indoor air levels of chlorpyrifos in plenum houses treated with Dursban TC termiticide. Dursban is not currently approved for this use. This study, which will be used in support of registration, is part of a larger study requested as part of a data call-in under FIFRA 3(c)2(b). The protocol for this larger study has been reviewed and approved. A copy of our comments on this protocol is attached. EAB has no objection to the use of the data from plenum houses in support of the proposed registration.



David Jaquith
Special Review Section
Exposure Assessment Branch
Hazard Evaluation Division (TS-769C)

2

Chlorpyrifos

Dow Chemical/Indoor Air Protocol

Dow Chemical has responded to a series of questions raised by the Exposure Assessment Branch following the review of an indoor air protocol for measuring air levels of chlorpyrifos in homes. Dow has addressed all of our concerns by subject category and have assured that the following will be done as part of this study:

Quality Assurance

Through close monitoring Dow will insure that a uniform application rate is used in all homes which are treated as part of this study.

The absorbent material is prepacked into the air sample tubes by the manufacturer. A single lot of absorbent material will be used for this study.

The same analytical laboratory, chemical method and technician(s) will be used to perform all sample analyses.

Air pumps will be calibrated before and after sample collection.

All tubes will be sealed with caps.

The low levels of xylene found in the air during and after sampling should not interfere with the analyses.

Sampling

The sampling tubes to be purchased for this study will contain pre-packed dual layers of absorbent materials.

Air samples will be collected near the center of the room at a sampling height of approximately four feet.

Sampling times of two hours should have a sensitivity of 0.08 ug/m³ for chlorpyrifos, and ensure test accuracy.

Air samples will be collected during application and again at 2, 4, 8 and 24 hours. Samples will also be collected at 7, 80, 90 and 360 days.

The requirement for 3 consecutive 8 hour samples to be collected on days 1, 7, 30, 90, and 360 has been deleted.

3

Data Collection

Separate data collection sheets will be used by homeowners, PCO's and Dow's monitoring team to record information regarding the history of the homes selected. A copy of these data sheets will be submitted to EAB prior to the start of study.

Homeowners will provide information on all pesticide applications made in homes during testing period.

The mass of chromosorb 102 in the sorbent tube should be 100 mg \pm 10% per tube as specified by the manufacturer.

Protocol Modifications

Attachment 1 provided the statistical rationale for monitoring 32 homes.

Air exchange rates will be measured on homes in this study using a tracer gas ASTM method.


Ten percent of all air samples will be representative replicates and will be sent to EPA's Beltsville Laboratory for analysis as an external QA check. These should be packed in dry ice or cold packs and shipped directly to the Beltsville Laboratory along with a complete list of the samples shipped. A copy of this list will be sent to EAB.

Air monitoring studies will begin in the spring of 1985.

Housing Selection

Dow Chemical specified in their original submission that four major housing construction types would be included in this study, and that eight (8) homes of each type would be selected for analysis.

EAB recognizes the merits of conducting controlled experiments on a small sample population as Dow Chemical has proposed to do. These data collected from 32 homes might be sufficient to allow valid comparisons between house-to-house as well as within-house variability and the reproducibility of the chemical methodology. If this is not the case, EAB reserves the right to request additional data to fulfill all of the requirements of the February, 1984 3(c)2(b) letter.


David A. Jaquith
Exposure Assessment Branch
Hazard Evaluation Division

4