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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 9 1991

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

MEMORANDUM

SUBJECT: REVIEW OF PROTOCOL FOR PROPOXUR INSECTICIDAL TAPE
INDOOR AIR MONITORING STUDY (HED Project No. 1-1168)

TO: Dennis Edwards
PM 12
Registration Division (H7505C)

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Please find below the OREB review of

HED Project #: 1-1168

RD or SRRD Record #: 164057

Caswell #: 508

Date Received: 5/2/91 Review Time: 3 days

Date Returned: 8/9/91

Deferral to: Biological Analysis Branch/BEAD
Science Analysis & Coordination Branch
TB - I
TB - II

1.0 INTRODUCTION

In December 1987 the Agency issued a Data-Call-In notice (DCI) requiring exposure studies for the insecticide propoxur. The use of indoor pest strips was included in the battery of studies addressed by the DCI. Mobay Corporation, the major registrant for this material, submitted a monitoring study that was reviewed by OREB/NDEB in August 1989 (1). The study was found to be inadequate because it did not reflect the maximum use rate conditions. Information judged to be essential was also missing from the report.

The product used in the study was Hercon Insectape, containing 10 percent propoxur in 1" x 4" adhesive strips. The manufacturer of this product, Hercon Environmental Company, has submitted a protocol for another indoor air monitoring study to address the use of these strips.

2.0 CONCLUSIONS

OREB finds the protocol submitted by the registrant to be acceptable. While the proposed study does not include the 15 replicate sites recommended in the previous review, there should be an adequate number of replicates in this study to allow a reliable estimate of respiratory exposure. The registrant must be sure to carefully document the sites of the pest strips and the sampling equipment. The use of photographs could be useful for this purpose. The status of the heating/ventilation/air conditioning system should be adequately described. The analytical support data must also be included in the final report. Quality assurance data should conform to the Agency's Pesticide Assessment Guidelines - Subdivision U - Applicator Exposure.

3.0 DESCRIPTION OF STUDY PROTOCOL

The study will be conducted in 10 unoccupied but fully furnished dwellings; either houses, apartments, or a combination of both. These houses will be of a construction representative of modern, energy-efficient homes. The study will be conducted with HERCON INSECTAPE HIGH-TECH WITH PROPOXUR, (EPA REG. NO. 8730-49) as the test material. The product will be applied to various locations in a given room as per label instructions. The paper backing will be removed from the adhesive strips which will then be attached to the desired locations. The product will be applied to kitchens inside cabinets, behind drawers, under sinks, and other locations normally treated by consumers with this type of formulation. A total of 36 strips will be applied in each kitchen. The cabinets and drawers in which the strips are applied will be left open during sampling but will remain closed at other times.

Air concentrations of propoxur will be determined by drawing air through sampling tubes containing XAD-4 resin using calibrated

personnel sampling pumps. The sampling tubes will contain 2 segments to prevent breakthrough. Two sampling units will be used in each treated room; one 5'10" from the floor and the other at a height of 2'. Each of the units will be located approximately 5 feet from the general area of the strips, near the center of the room where applicable. A sample volume of 24 liters has been proposed with a sampling time to be determined by this volume requirement. Air samples will be collected before application, immediately after application, 24 and 48 hours after application, and at intervals of 4, 7, 14, 21, and 28 days post-application. Room temperatures, humidity, and descriptions of the test rooms will be included in the study report.

The sampling efficiency and porosity of the sampling tubes will be determined before the conduct of the study. Air will be drawn through tubes spiked with 1.0 ug of propoxur at the same rate and for the same sampling time as the atudy samples. After collection the samples, blank and fortified tubes, will be stored at -7 degrees C. These tubes will be analyzed at the conclusion of the study to assure that decomposition has not occurred during shipping and storage. In addition, storage stability samples spiked with BAYGON 70WP and BAYGON technical will be kept for 100 days to determine whether losses occur from the XAD-4 resin under these storage conditions.

The samples will be transferred to a vial and desorbed with ethanol. Propoxur will be quantified by HPLC using a post-column derivatization unit and a fluorescence detector. The determination limit was estimated to be 0.1 ug per sample. The method will be validated for a range of 0.05 to 1.0 ng per ul.

REFERENCES

1. Memorandum from S. Knott (NDEB) to D. Edwards (RD) titled "Review of Post Application Exposure from Indoor Pest Strips Containing Propoxur, HED Project No. 9-1540", dated August 2, 1989.

cc: Correspondence File
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Propoxur file
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