Shaughnessy No: 047802

Date Out of EAB: APR 29 1988

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Attached, please find the EAB review of:

Reg./File # : 11556-69

Chemical Name : Propoxur

Type Product : Insecticide

Product Name :

Company Name : Mobay Corporation

Purpose : Protocol Review for Exposure Study - Total Release Fogger

Date Received : 4/8/88 Action Code: 352

Date Completed: EAB #(s): 80642

Monitoring study requested: X Total Reviewing Time: 2 days

Monitoring study voluntarily: ____

Deferrals to: ____ Ecological Effects Branch

____ Residue Chemistry Branch

____ Toxicology Branch

1.0 INTRODUCTION

In December 1987 the Agency issued a Data Call In Notice (DCI) requiring exposure data for several uses of propoxur. Propoxur is an organophosphate insecticide with a number of indoor and outdoor uses around occupied structures in addition to agricultural formulations. Mobay Corporation responded to the DCI with a package containing protocols for seven exposure studies addressing use of products containing this compound (Accession Nos. 219810-219819). The protocol reviewed in this document addresses the potential dermal and respiratory exposures following actuation of a total release fogger containing propoxur.

2.0 DESCRIPTION OF STUDY

2.1 Treatment Procedure

The test product evaluated in this study will be a seven ounce total release fogger containing one percent propoxur. The fogger will be actuated in a room with a volume of approximately 6000 cubic feet. The doors and windows will be closed and the ventilation system turned off. The fogger will be released in the center of the room. The room will be ventilated two hours after release of the material. Three to five replicates were proposed.

2.2 Air Monitoring

Airborne concentrations of propoxur will be determined by drawing air, at a known rate, through filters using calibrated personal sampling pumps. Duplicate samples will be collected approximately 5 feet from the fogger at a height of one foot above the floor. The following sampling intervals were proposed:

1) prior to application
2) prior to ventilation
3) Two and one half hours after application (after 30 minutes of ventilation)
4) Four and one half hours after application
5) Eight hours after application
6) Twenty four hours after application

2.3 Surface Sampling

2.3.1 Deposited Residue Sampling

Residues resulting from deposition of propoxur will be collected on 3 x 3 inch 12 ply gauze pads located at various

positions on the walls and floor. These pads will be removed during the first 30 minutes of ventilation.

2.3.2 Determination of Available Residues

Residues will be determined on floors, walls, upholstered furniture, counter or table tops, exposed dishes, and cooking utensils. In addition counter tops, dishes, and cooking utensils will be covered with paper as specified in the label instructions. Residues reaching these protected surfaces will be measured. Available residues will be determined by wiping a one square foot area with a moist 3 x 3 inch gauze. Areas will be wiped in one direction only, using moderate pressure and only one side of the pad. Triplicate samples will be collected at the following intervals:

1) Prior to application
2) After 30 minutes of ventilation
3) Four and one half hours after ventilation
4) Eight hours after application

The areas to be sampled will be marked to assure that subsequent samples are collected from unsampled areas.

2.3.3 Extractable Residue Sampling

Extractable residues will be determined using coupons of materials similar to those used for available residue sampling. Three coupons of each material will be sampled at each of the intervals specified for available residue determination. These coupons will be selected at random. The coupons will be placed in bottles containing solvent for extraction.

2.3.4 Calculation of Transfer Coefficient

The transfer coefficient correlates residue levels on a treated surface with the amount of material that adheres to the skin after contact with the surface. The amounts obtained from the wipe samples method will be compared to those from wiping the hand over the same sized area of the same medium. Wipe samples will be taken from an area large enough to maximize the amount collected. Similar wipes will be taken with the bare hands of volunteers. These two methods will then be compared to determine the transfer coefficient.

2.4 Analytical Chemistry and Quality Assurance

The solvents to be used for extraction and other analytical procedures were not specified in the protocol. All samples will be shipped and stored on dry ice prior to analysis.

Validation of the analytical method must be conducted using fortified media at four concentrations that encompass expected propoxur levels in the study. Storage stability samples, covering the longest expected interval between sampling and analysis, will be included. Field validation will be conducted by exposing fortified media for time periods equivalent to those for a sampling replicate. Blank and fortified samples will be included with the study samples to assure that breakdown of the propoxur has not occurred during shipping and storage. These quality assurance samples will make up about ten percent of the total study samples.

3.0 CONCLUSIONS

EAB finds the protocol for this study to be acceptable and recommends only a few changes. Three to five replicates have been proposed. In order to achieve reasonable confidence in the results of sampling, EAB requires that at least five replicates be included in the study. The last sampling interval proposed is twenty four hours after application. EAB recommends that the registrant be prepared to take additional samples should appreciable residue/air levels remain at the twenty four hour sampling period in order to properly define any decay curve in these levels.

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