Shaughnessy No: 047802

Date Out of EAB: APR 29 1988

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Attached, please find the EAB review of:

Reg./File # : 11556-51

Chemical Name : Propoxur

Type Product : Insecticide

Product Name :

Company Name : Mobay Corporation

Purpose : Protocol Review for Exposure Study - Outdoor Application with Non-Pressurized Sprayer

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

Date Completed: EAB #(s): 80644

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 study is designed to measure the dermal and respiratory exposure of individuals applying propoxur using non-pressurized spray products outside of the home.

2.0 DESCRIPTION OF STUDY

2.1 Description of Treatment

Propoxur will be applied to the outside of a building using a ready-to-use non-pressurized sprayer. The material will be sprayed on door and window frames, screens, foundation walls, and patio surfaces. Areas treated will represent application to a typical house. Label instructions will be followed throughout the treatment. Fifteen treatment replicates will be performed.

2.2 Exposure Monitoring

Dermal exposure of the body will be measured using dermal patches attached to the applicator's clothing. The patches will consist of a 3 x 3 inch, 12 ply, gauze encased in a waterproof paper envelope with a 5.8 cm diameter circle cut in the outer side of the envelope. Applicators will wear long sleeved cotton/polyester coveralls and a cap which will represent normal work clothing. Dermal dosimeters will be located both inside and outside of the clothing on the upper arms, the forearms, chest, back, front of both thighs, and on the shins. Care will be taken to avoid overlap of inner and outer patches on the same regions of the body. An additional dosimeter will be attached to the front of the cap.

Exposure of the hands will be measured by hand rinse with 200 ml of absolute ethanol. Each hand will be washed twice. The ethanol will be stored in a labeled bottle until analysis.

Airborne concentrations of propoxur will be determined by drawing air, at a known rate, through filters using

calibrated personal sampling pumps. The filters will be attached to the applicator's clothing in the breathing zone. The pump and filter will be operating throughout the treatment period.

2.3 Analytical Chemistry and Quality Assurance

Exact analytical procedures were not presented in the protocol. Samples will be stored and shipped on dry ice. The analytical methods will be validated by determining the recovery of propoxur from fortified samples of the test media. Four levels of fortification, encompassing the expected concentrations found in the study, will be evaluated. A storage stability study, covering the expected maximum time periods between sampling and analysis, will also be performed. Field validation will be conducted by exposing fortified media to the test conditions for the length of a complete sampling replicate. Blank and fortified media will also be included with the study samples to assess any degradation or loss of the material that may occur during shipment and storage. Quality assurance samples will make up approximately ten percent of the total study samples.

3.0 CONCLUSIONS

EAB finds the proposed protocol to be acceptable. The analytical methods, although not specified in the protocol, must be properly documented and strict quality assurance must be followed at all stages of the study. Exposure is often correlated with the total amount of material applied as well as the concentration of pesticide used. Therefore, the total amount applied at each replicate should be included in the final report. The study should provide a reliable estimate of the potential exposures of individuals applying propoxur outside of structures using non-pressurized sprayers.

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