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

SEP 27 1990

OFFICE OF  
PESTICIDES AND TOXIC  
SUBSTANCES

MEMORANDUM

SUBJECT: Applicator and Occupant Exposure to Bifenthrin during Experimental Use as a Termiticide (HED Intra #0049)

TO: David Liem  
Toxicology Branch/Section II  
Health Effects Division (H7509C)

FROM: Curt Lunchick, Acting Section Head *Curt Lunchick*  
Environmental Chemistry Review Section  
Non-Dietary Exposure Branch/HED (H7509C)

THRU: Charles L. Trichilo, Ph.D., Chief *Trichilo*  
Non-Dietary Exposure Branch/HED (H7509C)

The Non-Dietary Exposure Branch has reviewed the experimental use permit for Biflex FT, a termiticide use of bifenthrin. Toxicology Branch II has stated that it would have no objection to issuance of the EUP provided the carcinogenic risk to applicators and occupants of treated buildings did not exceed  $10^{-6}$ . Bifenthrin has been classified as a Category C carcinogen with an upper bound potency estimate of  $5 \times 10^{-2}$  (mg/kg/day)<sup>-1</sup>.

NDEB does not have any data available to permit a quantification of exposure to bifenthrin from the termiticide use. The agricultural use estimates cannot be used directly since the application techniques are totally different. Despite this lack of data, one can be reasonably assured that risk will not exceed  $10^{-6}$ . The highest exposure in the agricultural scenario was to the aerial open pour mixer/loader with an average daily exposure of  $4 \times 10^{-2}$  mg/kg/day. This estimate was based on the mixer/loader handling 220 lbs ai/day and 1100 lbs ai/year, assuming five uses per year. Toxicology Branch II estimated the risk to the mixer/loader to be  $10^{-3}$  based on 30 years of exposure.

Under the EUP no more than 190 lbs ai will be used throughout the United States. In addition, the EUP is for one year or 1/30 of the duration assumed for mixer/loaders. Even if one individual applied all 190 lbs ai, very unlikely, the lifetime average daily exposure based on the worst agricultural

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estimate is  $2 \times 10^{-4}$  mg/kg/day with a risk of  $1 \times 10^{-5}$  from one year of use. Therefore NDEB concludes that applicator risk will not exceed  $10^{-6}$  for the EUP. Post application exposure is typically much less than exposure to an applicator.

NDEB is concerned, however, about lifetime risks from termiticide use of bifenthrin should a FIFRA Section 3 registration be granted. Therefore, NDEB requests that the Registration Division require the registrant, FMC, to monitor dermal and inhalation exposure to applicators and residents of treated structures during the EUP. These data will be required to support the registration of Biflex FT termiticide.

cc: G. LaRocca, PM15/RD (H7505C)  
E. Saito, SACB  
Bifenthrin file  
Correspondence file  
Curt Lunchick