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

JAN 28 1988

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Notes of a meeting between representatives from the U.S. Army, Navy and Air Force and Office of Pesticide Programs staff to discuss the use of permethrin to treat uniforms to protect personnel from insects.

TOX CHEM. No.: 652BB

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On January 7, 1988 a meeting was held between representatives of U.S. military branches and Office of Pesticide Programs to discuss the use of permethrin to treat military fabric to protect military personnel from insects and insect borne diseases. Present at the meeting were:

Cdr. Tim Dickens, U.S. Navy, Armed Forces Pest Management Board
LtC. Lyman Roberts, U.S. Army, Medical Material Development Activity
Col. Robert Clegern, U.S. Air Force, Pest Management Board
Herbert L. Snodgrass, U.S. Army Environmental Hygiene Agency

J. Akerman, Deputy Director, Registration Division, OPP
H. Harrison, Registration Division, OPP
G. LaRocca, Product Manager #15, Registration Division, OPP
C. Dively, PM Team #15, Registration Division, OPP
D. Firestone, Exposure Assessment Branch, HED/OPP
C. Lunchick, Exposure Assessment Branch, HED/OPP
W. Burnam, Deputy Chief, Toxicology Branch, HED/OPP
J. Doherty, Toxicology Branch, HED/OPP.

The meeting was held at the request of the military coalition who were concerned as to why the Environmental Protection Agency has not registered the pyrethroid insecticide permethrin for use on clothing to protect against insects which may cause disease or otherwise be a nuisance.

One of the problems in particular was that the Agency considers this proposed use of permethrin to represent a chronic exposure and therefore it would be appropriate to use chronic toxicity data (i.e. the Acceptable Daily Intake or ADI) as one of the considerations in assessing the potential hazard resulting from this use. In the absence of acceptable data actually demonstrating otherwise, TB assumed that 100% of permethrin applied to clothing can transfer to the skin and that 100% of that is absorbed into the body. Using these assumptions it was calculated that the potential daily exposure is 7 fold higher than the ADI. TB considers a risk represented by a 7 fold increase over the ADI to be unacceptable. EPA suggested to the registrants of PERMANONE that if they could provide additional information demonstrating less than 100% transfer of permethrin from the fabric to the skin and/or less than 100% dermal absorption of permethrin through the skin, the current risk estimate may possibly be reduced to an acceptable level.

The military coalition was concerned with the Agency's reviews of previously submitted dermal absorption studies with permethrin conducted by the U.S. Army Environmental Hygiene Agency (refer to R. Zendzian's reviews dated April 30, 1987 and July 25, 1986) which indicated that the studies are unreviewable. TB maintains the position made by Dr. Zendzian that the studies (which were originally submitted as summary reports only and later as a disorganized submission of the raw data) are not suitable for review. Furthermore, an examination of the raw data indicated that it would be an inadequate and insufficient basis from which to reconstruct the study conditions and parameters. Thus, in the opinion of the Agency, the dermal absorption studies could not be salvaged.

TB also considers another study conducted by the Army Environmental Hygiene Agency (designed to estimate the transfer of permethrin to the skin from treated clothing) to be unacceptable because the report was submitted in summary form only (refer to J. Doherty reviews dated November 15, 1985 and March 21, 1986).

The military coalition then indicated that they did have additional transfer data they believed would show less than 100% transfer of permethrin from the fabric to the skin and would submit this information shortly. They also indicated a preference to demonstrate, if possible, little or no risk to permethrin from treated fabric via cloth transfer data rather than conduct a new dermal absorption study. The Agency agreed that this would probably be an appropriate way to approach the problem at this time. TB noted that a study designed to assess the transfer of a pesticide from treated clothing to skin should best be reviewed by Exposure Assessment Branch.

The military coalition raised the question of the oncogenicity classification of permethrin. Mr. Burnam explained that permethrin has not been formally peer reviewed by Toxicology Branch's Peer Review Committee and hence not classified as to its oncogenic category according to Agency Guidelines. Mr. Burnam, however, indicated that permethrin is currently being treated as if it were Category C and no oncogenic risk assessment to support its use in military fabric treatment would be necessary. Although the military coalition noted EPA's current internal policy not to conduct oncogenic risk assessment for permethrin they desired a more formal public notification of this policy. It was decided at the meeting that permethrin should be Peer Reviewed by Toxicology Branch in the near future.