Caswell #676
6-24-96

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

OPP OFFICIAL RECORD
HEALTH EFFECTS DIVISION
SCIENTIFIC DATA REVIEWS
EPA SERIES 361

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

111801

SUBJECT: Vantocil IB Microbicide (PHMB); EPA Registration No. 010182-00128; Registration Request to Use PHMB on Human Textile End Use Products; Zeneca AG Products

Tox.Chem No.: 676
MRID No.: 43721701,-02
DP Barcode No.: D223259
Submission No.: S500716

TO: Ruth Douglas/Robert Travaglini, PM Team 32
Antimicrobial Branch
Registration Division (7505C)

FROM: William Dykstra, Ph.D., Toxicologist William Dykstra 6/24/96
Charles Lewis, Biologist Chuck Lewis 6/24/96
PIRAT/RCAB
Health Effects Division (7509C)

THRU: Michael Metzger, Chief
Risk Characterization and Analysis Branch
Health Effects Division (7509C) Michael Metzger

ACTION REQUESTED: The Registrant, Zeneca AG Products, requests the registration of Vantocil IB Microbicide to add cellulosic, Textiles, and Textile Spin Finishes. Vantocil IB is diluted and applied to give 0.025-2.0% on the dry weight of the substrate. Application is by conventional means such as padding, spraying, soaking or exhaustion. The following are examples of products suitable for antimicrobial finishing: toweling, bedding, upholstery, carpets, curtains, wall coverings, mops, sponges, dishcloths, yarns, cords, shirts, underwear, sportswear, hosiery, sweatshirts, uniforms, wipes, tissues, dressings, bandages, incontinence pads, diapers, and feminine hygiene products. Pirat has been requested to review this application with respect to human safety.

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CONCLUSIONS:

The requested registration cannot be toxicologically supported. In the human skin patch study, reviewed by the Agency on 7/8/82 by G. Ghali, approximately 191 subjects completed the human repeat insult patch test (ten induction exposures at 2% v/v with challenge applications at this and lower concentrations). It was noted by the reviewer that skin sensitization reactions occurred at challenge from 2% to as low as 0.10%. It is not possible to predict whether a threshold level for induction and subsequent **immunologic reaction** (skin sensitization or possibly other toxic manifestations) resulting from use of the treated products would exist under use conditions for the proposed registration (0.025-2.0%) when both the obvious widespread human exposure potential for this product (possibly millions of people of all ages and varying immunologic statuses, some of whom may be compromised [such as AIDS patients and people with immunologic disorders]) and the obvious prolonged duration of human exposure (possibly several months to years) are considered. The likely human exposure scenario from most of the end-use products is chronic (greater than several months) and chronic exposure (mg/kg/day, with dermal penetration factored into the exposure estimate) has to be compared to a chronic NOEL (mg/kg/day) to determine an MOE. Exposure scenarios of shorter duration would employ studies which are less than chronic. The risk assessment is unacceptable, since MOE calculations do not factor the dermal penetration, body weight, multiple exposures per day (e.g., diaper) and chronic exposure scenarios.

The following studies are required to support this registration:

83-1: chronic toxicity - dog and rat
83-2: carcinogenicity studies - rat and mouse
83-4: reproduction study - rat
85-1: dermal penetration - rat