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

MAR 20 1992

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM:

SUBJECT: EVALUATE APPLICATION FOR REGISTRATION FOR MAXFORCE® ROACH CONTROL GEL (HED PROJECT # 1-2425)

TO: George LaRocca, PM 13
Insecticide-Rodenticide Branch
Registration Division (H7505C)

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Occupational and Residential Exposure Branch
Health Effects Division (H7509C)

THRU: Mark I. Dow, Ph.D., Section Head
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Please find below, the OREB review of:

HED Project No.: 1-2425

Caswell No.: 642AB

Pesticide Chemical Code: 118401

EPA Reg. No.: 064248-L

EPA MRID No.:

Review Time: 1 DAY

Company Name: THE KINGSFORD PRODUCT COMPANY

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I. INTRODUCTION:

The Kingsford Product Company is submitting an application for registration for the insecticide Maxforce® Roach Control Gel. Hydramethylnon at 2.15% is the active ingredient in Maxforce®, which is packaged in a plastic dispenser containing 2.1 ounces (60g) of bait. Application rates for Maxforce® Roach Control Gel depend on level of infestation and species to be controlled. The bait can be applied as spots or as a bead in cracks and crevices. For the German or brown-banded roach apply 1-2 spots or 3-6 inch bead. For the American or Oriental roach apply 2-4 spots or 6-12 inch bead. The recommended spot size is approximately 17mm in diameter or dime size and contains 1/4 -1/2g. The label does not specify whether the 1/4 - 1/2g contained in the recommended spot size is active ingredient or formulation.

Directions for use indicate Maxforce® is intended for indoor and outdoor control of cockroaches in non-food areas such as residential, institutional, warehousing and commercial establishments, hospitals, laboratories, computer facilities, sewers, buses, boats/ships, trains, pet shops and zoos. The label also directs applicators to wear gloves when applying this product.

In order to evaluate exposure resulting from the use of Maxforce® Roach Control Gel, OREB considered the dermal, inhalation, and ingestion routes of exposure. At this time OREB does not possess actual or surrogate data to evaluate exposure from this type of formulation. Consequently, an exposure scenario was postulated where the contents of a 2.1 ounce tube was available for exposure.

II. CONCLUSION:

OREB concludes the following:

(1) The use of gloves when applying Maxforce® Roach Control Gel and the formulation type will effectively reduce any possible dermal exposure to negligible amounts.

(2) Inhalation exposure appears to be minimal since the active ingredient, hydramethylnon, has a vapor pressure of 2.00×10^{-8} Torr @ 45°C which renders it nonvolatile.

(3) While Maxforce® Roach Control Gel is recommended for use in non-food residential and commercial areas, the possibility of ingestion and dermal exposure does exist. In industrial settings it is assumed that ingestion and dermal exposure will not occur if directions on the label are followed. However, in the residential setting potential ingestion and dermal

exposure can possibly occur if children are involved.

Exposure Estimation:

The following assumptions are made:

1) The entire contents of a container are ingested or are available for dermal exposure

2) A child 2-6 years old weighs an average of 17 kg

3) 100% Dermal absorption

Each 2.1 ounces of formulation contains 2.15% a.i. which equals:

2.1 oz. form./container x 2.15% a.i. = 0.04 oz. a.i.

0.04 oz. a.i./container x 28.4 g/oz. = 1.13g a.i./container

1.13g a.i./container x 1000mg/g = 1,130mg a.i./container

If the 17kg child ingest the contents of the container, then

1,130mg a.i./ 17kg = 66.47mg a.i./kg available for ingestion

For dermal exposure 100% dermal absorption is assumed. Consequently, 66.47 mg/kg is available for dermal exposure.

While the above exposure is highly speculative, exposure to Maxforce® via ingestion or dermal exposure is at significantly higher levels than the NOEL of 2.5 mg/kg/day observed in a 90-day rat feeding study, the 2-year rat study, and the 3-generation rat reproduction study. The toxicological effect of concern is male infertility. However, the exposure scenario outlined above is not expected to occur under normal circumstances and consequently, OREB does not expect a large amount of active ingredient to be available for exposure either from ingestion or dermal exposure.

cc: B. Kitchens
Chemical File: AMDRO
Circulation
Correspondence