PMSD
1407B

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

MAR 3 1987

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: EPA No. 59-ERT: Permethrin: Request for the Registration of 1% Formulation (Atroban 1%) for Wicking Application to Cattle. Accession No. 400553-02C. RCB No. 1943

FROM: J. Garbus, Chemist
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

THRU: Andrew Rathman, Section Head
Residue Chemistry Branch
Hazard Evaluation Division (TS-769) ARR

TO: G. LaRocca/ Dively, PM-15
Registration Division (TS-767)

and

Toxicology Branch
Hazard Evaluation Division (TS-769)

Coopers Animal Health Inc., Kansas City, KS has applied for the registration of Atroban 1% Insecticide as a contact fly killer on beef and lactating cattle. The active ingredient in the formulation is permethrin. The material is intended to be dispensed thru a wicked applicator to the face and back of cattle as they amble under the device.

Tolerances are established for cattle fat (2 ppm), cattle meat byproducts (1 ppm), cattle meat (0.15 ppm), whole milk (0.15 ppm), and milk fat (3.75 ppm) for permethrin, (3-phenoxyphenyl) methyl 3(2,2-dichlorophenyl)-2,2-dimethylcyclopropane carboxylate and its metabolites DCVA, 3-PBA, and 3-phenoxybenzoic acid. (40 CFR 180.378) Permethrin is registered for dermal application to cattle.

The proposed use calls for the application of an 1% permethrin solution (see Confidential Appendix for formulation) dispensed from nylon wicks immersed in a suspended container placed above areas where cattle frequently pass such as the entrances and exits to barns and milking stalls. The device is designed to apply a thin coating of the solution to the face and back of the animals.

The data in the submission consists of the rate of depletion of the material as used in functioning dairy operations. From the

amount depleted over the test period and from the number of animals treated, the daily rates of application to cattle was calculated.

Five herds, consisting of a total of 1162 cows were treated at dairies located in Erath county Texas for 41 days. During the trial period a total of 18,175.02 ml of Atroban 1% were dispensed. This calculates as an average application of 0.38 ml/animal/day. As the formulation has a specific gravity of 0.84 and a concentration of 1% active, the application of 0.38 ml is equivalent to the average application of 3.04 mg permethrin per cow per day. The rates of application were different in the different dairy barns, ranging from 1.4 to 10.8 mg per cow per day.

Residue data for the dermal application of permethrin to cattle is available in petition 1F2564 and are discussed in reviews by J. Onley (2/25/82) and R. Loranger (11/9/83). Lactating dairy cattle were sprayed with the equivalent of 0.034 ounces active every 2 weeks for 8 months for a total of 18 applications. These same animals were housed in quarters sprayed every two weeks with permethrin and were forced to pass under a back rubber daily. At sacrifice, only trace levels (<0.01 to 0.02 ppm) of parent and metabolites were found in fat, liver, kidney, and muscle. Milk, collected continuously during treatment, had a maximum of 0.017 ppm. The usage in these resulted in the currently registered rate of dermal application of 68 mg/animal/day. The rates of the present request average 3.04 mg per animal per day with a maximum of 10.8 mg.

Conclusion and Recommendation

The proposed usage exposes cattle to lower levels of permethrin as a result of dermal application than those resulting from currently approved dermal applications.

We recommend for the registration of this product

Confidential Appendix of 1 Page: cc to R.F., S.F., PM-15, Reviewer, PP#1F2564, TOX, PMSD/ISB

cc: R.F., S.F., Circ., Reviewer, PMSD/ISB
RDI:ARR: 3/3/87:RDS: 3/3/87
TS-769:JG:jg:RM:803:CM#2: 3/3/87

Permethrin residue chemistry review

Page 3 is not included in this copy.

Pages _____ through _____ are not included in this copy.

The material not included contains the following type of information:

___ Identity of product inert ingredients

___ Identity of product impurities

___ Description of the product manufacturing process

___ Description of product quality control procedures

___ Identity of the source of product ingredients

___ Sales or other commercial/financial information

___ A draft product label

X The product confidential statement of formula

___ Information about a pending registration action

___ FIFRA registration data

___ The document is a duplicate of page(s) _____

___ The document is not responsive to the request

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.