MEMORANDUM

SUBJECT: EPA Reg. #4691-108
      [RCB # 585] [Acc.#: None]  Permethrin: Amended Registration.
      New tail device for cattle.

FROM: William L. Anthony
       Residue Chemistry Branch
       Hazard Evaluation Division (TS-769C)

TO: George T. LaRocca
    Product Manager #15
    Insecticide-Rodenticide Branch
    Registration Division (TS-767C)

    and

    Christine A. Dively
    Insecticide-Rodenticide Branch
    Registration Division (TS-767C)

THRU: Ed Zager, Section Head
       Special Registration II
       Residue Chemistry Branch
       Hazard Evaluation Division (TS-769C)


The petitioner proposes a new trade name, MORMECTIN™ and a new method of application, using a tail attachment device, TAIL-TAIL. As with PERMECTIN™-II, MORMECTIN™ is for use on beef, dairy cattle, and horses to aid in the control of flies, lice, mites, and ticks.

Tolerances for residues of permethrin, (3-phenoxypyphenyl) methyl-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate and its metabolites (DCVA, 3-PBA, 3-phenoxbenzoic acid) include
2 ppm for cattle fat, 1 ppm for cattle meat by-products, 0.15 ppm for cattle meat, and 3.75 ppm for milk fat (reflecting 0.15 ppm in whole milk) (40 CFR 180.378).

Manufacture and Formulation

(See Confidential Appendix)

Registered use for PERMECTRIN™

PERMECTRIN™-II is registered for use on beef and dairy cattle, and horses at the rate of 1 qt (94.6 gm ai) of the formulation in 200 gals water for whole body spraying not to exceed 1 to 1.5 gals of spray/animal or < 0.473 gms ai. For lice or mites, a second treatment is recommended 14 to 21 days later.

Proposed Use for MORMECTRIN™

The application will be made by dispersion from a device containing 3 ml of the formulation (0.3 g ai) attached to the animal's tail. The application will continue over a period of one month to several months. (Note: the formulation is on the inside of the device covered by porous tape.)

When retreatment is necessary the reservoir in the tail device may be refilled with 2.5 to 3.0 ml (0.25 to 0.30 gm ai) of the formulation (either MORMECTRIN™ or PERMECTRIN™-II)

Residue Data

No residue data were submitted with this action.

See PP#1P2564, J. Onley, February 25, 1982, for available residue data for dermal use of permethrin on cattle.

Lactating dairy cattle were sprayed with 2 quarts of a 0.05% ai solution every 2 weeks for about 8 months (18 total applications). This is equivalent to 0.034 oz (or 1.07 gms) ai/cow/treatment (about 0.8x the requested rate). In addition the premises were treated every 2 weeks at the then proposed rate and the cows were forced to pass under a permethrin treated back rubber each day. Only trace levels (< 0.01-0.02 ppm) of parent compound and the various metabolites were found in fat, liver, kidney, and muscle samples taken 1 and 5 days after the final dermal application. Milk collected throughout the study had a maximum of 0.017 ppm permethrin per se with metabolites < 0.01 ppm. From that experiment it can be seen that the dermal and premise uses of permethrin result in very low residues in tissues and milk. Therefore, the requested use would not result in residues...
exceeding the current tolerances for permethrin and its metabolites (DCVA, 3-PBA, and 3-phenoxybenzoic acid) on fat, meat, and meat by-products of cattle and horses at 2.0 ppm, 0.15 ppm, and 3.0 ppm, respectively; and 3.75 ppm for milk fat (reflecting 0.15 ppm in whole milk).

**Conclusion**

Residues from the proposed use of the tail device containing permethrin are not expected to exceed the established tolerance for milk and fat, meat, and meat by-products of cattle and horses. We have no objection to the use of this product, as proposed.
Permethrin residue chemistry review

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__ Identity of product inert ingredients
__ Identity of product impurities
__ Description of the product manufacturing process
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__ Identity of the source of product ingredients
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