



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

DEC 6 1983

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Reg. No. 602-GNU. Chlorpyrifos for direct animal
and premise use.

FROM: Linda S. Propst, Chemist
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

Linda S. Propst
MS

THRU: Charles L. Trichilo, Chief
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TO: Jay Ellenberger, Product Manager #12
Insecticide-Rodenticide Branch
Registration Division (TS-767)

Ralston Purina Company has provided us with additional
information in response to the RCB review of 8/12/83 (see memo
of L. S. Propst).

The applicant has requested registration of the chlorpyrifos
formulation Purina® Defender for use as a direct animal spray
or dip on hogs, beef cattle, sheep, horses, and non-lactating
goats and for use in animal premises.

Tolerances have been established for combined residues
of the pesticide chlorpyrifos (O,O-diethyl O-(3,5,6-trichloro-
2-pyrididyl) phosphorothioate and its metabolite 3,5,6,-trichloro-
2-pyridinol resulting from dermal and feed uses in the meat, fat,
and meat by-products of cattle at 1.5 ppm, and 0.2 ppm in the
meat, fat, and meat by-products of turkeys which might occur
from the treatment of pens. Tolerances of 0.1 ppm have been
established in the meat, fat, and meat by-products of goats,
hogs, horses, and sheep to cover residues of chlorpyrifos
resulting from the ingestion of agricultural commodities bearing
residues of chlorpyrifos (40 CFR 180.342).

The currently registered label for chlorpyrifos allows for
one dermal treatment of sheep using 0.002 lb. a.i./100 lb. body
weight, not to exceed 0.016 lb. active/animal regardless of weight.
Lambs weighing less than 50 lbs. are not to be treated. Sheep are
not to be slaughtered within 35 days of treatment.

Cattle may be treated topically with a 0.025% spray or dip, or
application of a 0.125% solution of chlorpyrifos may be applied in the
ear of the animal. A 14-day withdrawal period is specified for the
spray or dip uses, and zero day for ear treatment.

Formulation

Purina® Defender is an emulsifiable concentrate containing 2 lbs. active/gallon. It is comprised (by weight) of 26% chlorpyrifos. [REDACTED]

[REDACTED] The applicant notes in the Confidential Statement of Formula that the technical material is obtained from [REDACTED]

Proposed Uses

This product is used to control various insects and ectoparasites.

Premise Use - The proposed premise use would allow for concentrations of chlorpyrifos ranging from 0.2-0.5% active to be sprayed to runoff, with low pressure.

Livestock Uses - Hogs, beef cattle, sheep, horses, and nonlactating goats may be sprayed with chlorpyrifos using a maximum concentration of 0.2% active. One application is to be made per season with a zero day withdrawal.

For the treatment of scabies, the proposed use would allow for hogs, beef cattle, sheep, and nonlactating goats to be dipped once per season in a 0.02% solution of chlorpyrifos with no preslaughtering interval.

The proposed use would further allow for a concentrated spot application to be made between the front shoulders of hogs, beef cattle, sheep, and nonlactating goats. Use 3.0 cc's of undiluted Purina® Defender per 100 lbs. of animal weight (equivalent to 0.0016 lbs active/100 lbs body weight) but no more than 24 cc's per animal (a maximum of 0.013 lbs active/animal).

There has been no submission of residue data. No residue data are available in our files which reflect the proposed use patterns, i.e., the premise use, the livestock dip or spray using the maximum proposed concentration with no preslaughter interval, or the concentrated spot application.

In the absence of this data, we are unable to conclude that residues of chlorpyrifos and the 3,5,6-trichloropyridinol metabolite (TCP) occurring as a result of the proposed registration will not exceed the established tolerances in or on the meat, fat, and meat by-products of cattle, goats, hogs, horses and sheep.

PRODUCT INGREDIENT SOURCE INFORMATION IS NOT INCLUDED
IN THE PUBLIC INFORMATION IS NOT INCLUDED

Conclusions and Recommendations

In the absence of residue data reflecting the proposed uses we are unable to conclude that the established tolerances will be adequate to cover all residues of chlorpyrifos and the 3,5,6-trichloropyridinol metabolite in the meat, fat, and meat by-products of cattle, goats, hogs, horses, and sheep.

Therefore, we recommend against the proposed registration. To give this request further consideration, the applicant should be advised to provide us with the following:

1. The specific identity of the aromatic solvent used in the formulation.
2. A definition of exactly what one application "per season" in the proposed use means.
3. Data reflecting residues of chlorpyrifos and the 3,5,6-trichloropyridinol metabolite in livestock tissue and fat after the animal has been exposed to treated premises as well as being dipped in a 0.02% solution or sprayed with a 0.2% solution of chlorpyrifos. The animals should be slaughtered and samples of liver, kidney, muscle and fat taken on the day of treatment.
4. A letter of authorization from Dow Chemical which would allow us to refer to their data in our files while reviewing this registration.

TS-769:RCB:L.Propst:cdw:CM#2:Rm810:X77324:12/6/83
cc: R.F., Circu, Reviewer, Subject S.F., Amended use File.,
RDI: R. Hummel, 12/6/83; R. Schmitt, 12/6/83