MEMORANDUM  AUG 17 1982

TO:       D. Dickson, PM #25
          Herbicides/Fungicides Branch
          Registration Division (TS-769)

          and

          Residue Chemistry Branch
          Hazard Evaluation Division (TS-769)

THRU:     R. Jaeger, Section Head
          Review Section #1
          Toxicology Branch/HED (TS-769)

SUBJECT:  Proposal to exempt an Inert Ingredient from the
          requirement of a tolerance.

Reg. No.:  PP #2F2681

Caswell 

Moiety:  Cross-linked polyurea-type encapsulating material.

Clearance Sought:  Amend 40 CFR 180.10XX to exempt the cross-
linked nylon type microencapsulating polymer, polymethylene pol
phenylsiocyanate (PAPI) with 1,6-hexamethylenediamine (HMDA)
as the cross-linking reactant.

Restrictions:  Limited to application to soil before the edible portion of the
crop forms and to use only with formulations containing the herbicide
alachlor.

Sponsor:  Monsanto Co.
          Washington, D.C.
Conclusion:

RCB considerations permitting, Toxicology Branch has no objection to exempting this encapsulating polymer with the above restrictions.

Bases for the Conclusion:

1. The close structural similarity of the proposed polymer to two presently cleared polymers, PAPI with toluene diisocyanate as the cross-linking reactant (cleared under 180.1039, a Stauffer product), and PAPI mixed with sebacoyl chloride and a mixture of ethylenediamine and diethylenetriamine (cleared under 180.1028, a Pennwalt product), permits the conclusion that there is likewise no expectation of significant toxicity that could be associated with the proposed encapsulating polymer.

2. RCB considerations permitting, there will be no residues (<0.002 ppm as determined by 14C-radio-labeled studies) of the polymer in primary crops or in follow-up rotational crops.

Discussion:

Monsanto proposes using this encapsulating polymer with the herbicide, Alachlor [2-chloro-2',6'-N-(methoxymethyl) acetamide].

Tolerances for residues of alachlor in rads have been established pursuant to 40 CFR 180.249 (Lasso Herbicide; EPA Reg. #524-314).

The proposed new product (Lasso ME, EPA Reg. #524-GUU) will be used only on those crops for which tolerances have been established, and no changes in these are contemplated.

The application is to be limited to "before formation of edible portions of the crop".

The sponsor argues that the use of the cross-linking agent, HMDA, using PAPI as the basic homopolymer, will not result in a polymer that is more toxic than the presently exempted Stauffer and Pennwalt polymers.
The available evidence strongly suggests that nylon-type polymer capsules in general are not absorbed across the gut wall. This was demonstrated for the Pennwalt product and it is reasonable to conclude that this applies to the proposed polymer as well.

Sponsor contends that no residues (<0.002 ppm in racs as demonstrated by {superscript}14C- radiotracer studies) are expected. This will require RCB's confirmation.

Deferrals:

1. We defer to RCB as to whether the submitted residue data in fact reflect no resides (<0.002 ppm) in racs when the product is used as proposed.

David L. Ritter, Adjuvants Toxicologist
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