

US EPA ARCHIVE DOCUMENT



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

MEMORANDUM

AUG 17 1982

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

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) *HJ 8/11/82*

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

Reg. No.: [REDACTED] PP #2F2681

Caswell # [REDACTED]

Moiety: Cross-linked polyurea-type encapsulating material.

Clearance Sought: Amend 40 CFR 180.10XX to exempt the cross-
linked nylon type microencapsulating
polymer, polymethylene polphenylsiocyanate
(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.

PENDING REGISTRATION INFORMATION HAS BEEN DELETED.

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 sebacyl 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 racs 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 [REDACTED]

[REDACTED] and It is reasonable to conclude that this applies to the proposed polymer as well.

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

Deferals:

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

David Ritter 8/10/82
David L. Ritter, Adjuvants Toxicologist
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