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

MAY 11 1995

MEMORANDUM

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

SUBJECT: Review of Registrants Supplemental Information for  
Chlorethoxyfos.

FROM: Charles Lewis *Charles Lewis*  
Special Review and Registration Section II

TO: D. Edwards, PM Team 19  
Registration Division (7505C)

THRU: Mark I. Dow, Ph.D., Section Head *Mark I. Dow*  
Special Review and Registration Section II  
Larry C. Dorsey, Chief  
Occupational and Residential Exposure Branch  
Health Effects Division (7509C)

The Occupational and Residential Exposure Branch (OREB) has been requested by Registration Division (RD) to review the supplement to MRID 425592-22 submitted by E.I. du Pont de Nemours and Company and prepare an exposure assessment for Fortress® 2.5G and Fortress® 5G. The review is attached.

DP Barcode: D211346, D212802

Pesticide Chemical Code: 129006

EPA Reg. No.: 352-

PHED: No



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## I. INTRODUCTION:

### A. Background:

Chlorethoxyfos is the common name for 0,0-diethyl 0-(1,2,2,2-tetrachloroethyl) phosphorothioate. The products under consideration are Fortress® 5G Granular Insecticide and Fortress® 2.5G Granular Insecticide. The 2.5% formulation is for use by growers with conventional planters. Fortress® 5G will be sold in the SmartBox™, a completely-enclosed, tamper-proof, delivery system. E.I. du Pont de Nemours and Company is the manufacturer.

The purpose of the use is to control corn rootworm, cutworm, wireworm, white grubs, and seed corn maggot in corn. Applications are to be made with ground equipment in a T-band or in the furrow at planting. Rate of application (Fortress® 5G) is 3.0 oz/1000 feet of row. Corn planted on a 30" row spacing would result in a maximum application of 3.25 pounds formulation per acre (0.1625 lb ai/A). Fortress® 2.5G is applied at 6 oz/1000 feet of row. At a 30" row spacing, maximum application would be 6.5 pounds of formulation per acre (0.1625 lb ai/A).

### Tox. Endpoints

No toxicology endpoints were provided.

OREB previously prepared a preliminary exposure assessment for this chemical.

### B. Purpose:

OREB has been requested by RD to review the submission by E.I. du Pont de Nemours and Company and provide an exposure assessment for two products.

## II. DETAILED CONSIDERATIONS:

MRID 435503-06 (Powley, C.R. 1994. Supplement Title: Chlorethoxyfos Worker Exposure Study During Application of Fortress® 5G Granular Insecticide to Corn. Prepared and submitted by E.I. du Pont de Nemours and Company, Wilmington, DE, 19880), is a supplement to an earlier submission (MRID 425592-22). The questions and discrepancies noted in OREB's review dated May 25, 1994, have been adequately addressed in this supplemental submission. The exposure study satisfies the Subdivision U data requirement for the product applied during the study. However, the registrant has made several changes to the label since the exposure study was conducted.

When the study was conducted, Fortress® 5G was applied in a conventional planter, using closed cab tractors. Handlers wore coveralls, long-sleeved shirt, long pants, rubber boots, rubber gloves, and a respirator. Air sampling devices were worn during loading and application.

The registrant now has two labels, one for the SmartBox™ (5G) and one for a conventional planter (2.5G). Application rates, on a per acre bases, are the same. However, PPE is different for the two labels. For the 5G, applicators and other handlers are required to wear: long-sleeved shirt, long pants, waterproof gloves, and shoes plus socks. Use of closed cab tractors is not required.

For the 2.5G, applicators and other handlers must wear: long-sleeved shirt, long pants, waterproof gloves, shoes plus socks, and a respirator. Closed cab tractors are not required.

Based on the different clothing worn during the exposure study and the use of closed cab tractors, the exposure study is not applicable to the current Fortress® labels.

In addition, the registrant has stated "The most obvious (improvement) is the change in formulation strength of the granule from 5 to 2.5% which reduces the toxicity category from I to II and the label signal word from "Danger" to "Warning". OREB would like confirmation from RD concerning this change in toxicity category for the 2.5% product.

### III. CONCLUSIONS:

The discrepancies and omissions noted in OREB's previous review have been resolved by the registrant. The study submitted can be used to satisfy the Subdivision U data requirement for the Fortress® 5G product tested during the study. However, as currently labelled, Fortress® 5G (SmartBox™) and Fortress® 2.5G are different than the product tested during the exposure study. Consequently, the exposure study conducted by the registrant is not applicable to these products.

In order for OREB to be able to use the submitted study, PPE required on the two new labels would have to correspond to that worn during the exposure study. Use of closed cab tractors would also be required.

In addition, the registrant has stated that the toxicity category for the 2.5% product should be category II and the label signal word Warning. Since this determines the PPE required by WPS, OREB would like confirmation from RD concerning this change in toxicity category.

cc: C. Lewis, OREB  
S. Robbins, RCAB  
Correspondence File  
Chemical File (129006)