

US EPA ARCHIVE DOCUMENT

Shaughnessy No: 059101

Date Out of EAB: MAY 19 1986

To: L. Schnaubelt
Product Manager 12
Registration Division (TS-767)

SM

COPY

From: Samuel M. Creeger, Chief
Environmental Chemistry Review Section 1
Exposure Assessment Branch
Hazard Evaluation Division TS-769c

Attached, please find the EAB review of:

Reg./File # : 464-404

Chemical Name: Chlorpyrifos

Type Product : Insecticide

Product Name : Dursban/Lorsban

Company Name : Dow Chemical

Purpose : Protocol: fish accumulation in bluegill sunfish.

Date In: 5/7/86

Action Code: 352

Date Completed: 5/15/86

EAB #(s) : 6586

Reviewing Time: 0.5 day

Deferrals to:

 Ecological Effects Branch

 Residue Chemistry Branch

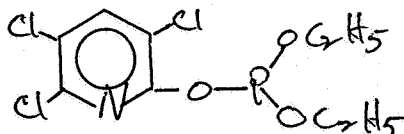
 Toxicology Branch

Monitoring study requested by EAB:

Monitoring study voluntarily conducted by registrant:

1.

1. CHEMICAL: Common Name- chlorpyrifos
Chemical Name- O,O-diethyl-O-3,5,6-trichloro-2-pyridyl phosphorothioate
Trade Name- Dursban/Lorsban
Chemical Structure-



2. TEST MATERIAL: Pyridine-ring labeled ^{14}C -chlorpyrifos at exposure concentration of 0.3 to 0.5 ug/L (ppb).
3. STUDY/ACTION TYPE: Dow chemical is requesting a review of a protocol of a fish accumulation study using bluegill sunfish.
4. PROTOCOL IDENTIFICATION: Bioconcentration of Chlorpyrifos in Bluegill (Lepomis macrochirus Rafinesque), Preliminary Copy, File No. ES-DR-043-4946-5.

5. REVIEWED BY:

Herbert L. Manning, Ph.D.
Microbiologist
EAB/HED

Signature: *Herbert L. Manning*
Date: 19 May 1986

6. APPROVED BY:

Samuel M. Creeger
Chief, Section 1
EAB/HED

Signature: *Samuel M. Creeger*
Date: MAY 19 1986

7. CONCLUSIONS:

The proposed protocol is not acceptable (see RECOMMENDATION for specific comments).

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8. RECOMMENDATION:

EAB finds the protocol for the fish accumulation study unacceptable for the following reasons:

- 1) The strategy to terminate the exposure part of the study if the three consecutive samples of the first 48 hours show plateauing of accumulation may be misleading and does not follow our guidelines. See Section 10 for more detail.
- 2) The residues in frozen samples must be shown to be stable for the storage period.

The following sampling schedule for fish and water is recommended:

Exposure days: -1, 1, 3, 7, 10, 14, 21, and 28

Depuration days: 1, 3, 7, and 14.

9. BACKGROUND:A. Introduction

See Section 3 of this review.

B. Direction for Use

See attached protocol.

10. DISCUSSION OF PROTOCOL:

The protocol is not acceptable for two reasons:

- 1) We do not concur with terminating the study if three consecutive analyses of fish (within the first 48 hours of the study) show accumulation to plateau. Such early plateauing does not necessarily mean equilibrium of chlorpyrifos residues between the fish and the water has been reached. Residue accumulation in the fish may show a plateau early in the study but then climb to a second, higher plateau during further exposure. This would be due to partitioning or metabolism of the chlorpyrifos that did not occur within the first 48 hours while the fish (i.e., its biochemistry) was adjusting to the presence of the chlorpyrifos.
- 2) Since some samples will be kept in frozen storage before being analyzed, storage stability data will be needed showing the chlorpyrifos residues to be stable during this period.

11. COMPLETION OF ONE-LINER:

Not applicable.

12. CONFIDENTIAL APPENDIX:

Contains the protocol.

12. CONFIDENTIAL APPENDIX

Page _____ is not included in this copy.

Pages 6 through 11 are not included.

The material not included contains the following type of information:

- Identity of product inert ingredients.
- Identity of product impurities.
- Description of the product manufacturing process.
- Description of quality control procedures.
- Identity of the source of product ingredients.
- Sales or other commercial/financial information.
- A draft product label.
- The product confidential statement of formula.
- Information about a pending registration action.
- FIFRA registration data.
- The document is a duplicate of page(s) _____.
- The document is not responsive to the request.

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