4-16-86

Shaughnessy No.: 109301

Date Out of EAB: [illegible]

Signature: [signature]

To: George LaRocca
Product Manager #15
Registration Division (TS-767)

From: Emil Regelman, Supervisory Chemist
Review Section #3
Exposure Assessment Branch
Hazard Evaluation Division (TS-769) [signature]

Attached, please find the EAB review of...

Reg./File # : 201-URI ; 201-URO

Chemical Name: Fenvalerate

Type Product : Insecticide

Product Name : Pydrin (fenvalerate)

Company Name : Shell Oil Company

Purpose : Permission to obtain registration (conditional) of §§ pydrin (ASANA) prior to submission of field dissipation data.

Action Code(s): 166

Date Received: 3/12/86

Date Completed: 4/16/86

EAB #(s) : 6367;6368

TAIS Code: 65

Total Reviewing Time: 1.0 day

Deferrals to:

____ Ecological Effects Branch

____ Residue Chemistry Branch

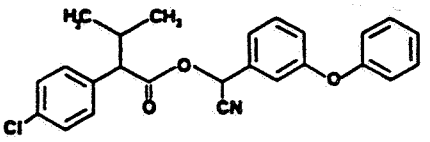
____ Toxicology Branch

1. CHEMICAL: Common name: Fenvalerate

Chemical name: 4"-Chloro-(2'''-isopropyl)phenylaceto-2-(3'-phenoxy)phenylacetonitrile

Trade name(s): Pydrin, SD 43775 (Shell Chemical Co.); Belmark (Shell International Chemical Co.); Sumicidin, Sumitly, Sumipower (Sumitomo Chemical Co.).

Structure:



Formulations: Pydrin (SD 43775) formulations 2.4 lb ai/gal EC and 4 lb ai/gal ULV concentrate (Shell Chemical Co.).

Physical/Chemical properties:

Emperical formula: $C_{25}H_{22}ClNO_3$
Molecular weight: 419.9
Physical state: Clear viscous yellow or brown liquid at 23°C; mild chemical odor.
Density: 1.17 g/ml at 23°C
Vapor pressure: 1.1×10^{-8} at 25°C
Solubility: in water, <1 mg/l at 20°C
in acetone, chloroform, cyclohexane, ethanol, and xylene, >1 g/kg
in hexane, 155 g/kg at 23°C

Stability: Stable to heat and sunlight
Stable to moisture
More stable in acid (pH 4) than alkaline solution

2. TEST MATERIAL: None

3. STUDY/ACTION TYPE: Request for conditional registration of §§ Pydrin (ASANA) MO70616 prior to submission of field dissipation data.

4. STUDY IDENTIFICATION: No Studies submitted for this action

5. REVIEWED BY:

John H. Jordan, Ph.D.
Microbiologist
EAB/HED/OPP

Signature: John H. Jordan

Date: 4/16/86

6. APPROVED BY:

Emil Regelman, Supervisory Chemist
Review Section #3, EAB/HED/OPP

Signature: E Regelman

Date: APR 17 1986

7. CONCLUSIONS:

Registration of the §§ isomer cannot be granted, conditionally, before completion of the field dissipation studies.

Before registration can be granted, the registrant must complete all of the specific requirements in the previous EAB conclusion (Action # 5459 - - 6121; 2/4/86) as follows: _

"The registrant stated that there is no difference in the fate of the single §§ isomer and the racemic mixture. Although most of the data received to date indicate that there may be no significant difference in the fate of the single isomer and the racemic mixture, the registrant must complete the field dissipation study and present analysis of all the data, including aerobic soil metabolism, to show no significant difference."

8. RECOMMENDATIONS:

The recommendations in this action are the same as the ones in EAB action(s) # 5459—6121 (2/4/86), as follows:

"When the §§ isomer field dissipation data are submitted, the registrant must submit a technical presentation of their aerobic soil metabolism and field dissipation data to illustrate the validity of their statement that, "there is no difference in the environmental fate of the racemic mixture and the single §§ isomer." The registrant must show, conclusively, why new studies should not be required for the proposed §§ isomer."

The decision to register the §§ isomer to replace the present racemic mixture is deferred until a satisfactory presentation of all the data is received and reviewed by EAB. The Agency will register the §§ isomer if the registrant's data demonstrates no significant environmental fate difference between the §§ isomer and the racemic mixture.

3

9. BACKGROUND:

Introduction:

A. The registrant requested registration of the "new" single §§ isomer to replace the present racemic mixture. The registration action addresses the registrants' request for permission to register the §§ isomer, now, before the field dissipation data are available. Requirements for registration of the §§ isomer were addressed by EAB in a previous action on 2/4/86. A field dissipation study using the §§ isomer in three locations is required by EAB as part of the data necessary for registration, and the studies are now in progress.

B. Directions for Use

Fenvalerate is a contact insecticide for use on a variety of field, vegetable, and orchard crops, ornamentals, forests, terrestrial noncrop sites, and domestic and commerical indoor and outdoor sites. Application rates range from 0.05 to 0.75 lb ai/A. The maximum application rate is 2-lb. ai/Acre/year. Fenvalerate may be formulated with petroleum distillates. Single active ingredient formulations consist of 2.4 lb ai/gal EC, 8.6% impregnated materials, and 0.01% RTU. Fenvalerate is generally surface applied by ground equipment or aircraft. The 2.4 lb ai/gal EC is a restricted use pesticide and applicators must be certified or under the direct supervision of applicators certified to apply fenvalerate. Fenvalerate is highly toxic to bees.

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES:

No studies submitted for this action.

11. COMPLETION OF ONE-LINER:

One-liner has not been initiated.

12. CBI APPENDIX:

No CBI is included in this action.