FEAVALERATE EEB REVIEW dated 9/28/84 pp. 284-287

109301
SHAUGHNESSEY NO.

REVIEW NO.

EEB BRANCH REVIEW

DATE: IN 7-27-84 OUT 9/28/84

FILE OR REG. NO. 201-URI

PETITION OR EXP. PERMIT NO.

DATE OF SUBMISSION 7-17-84

DATE RECIEVED BY HED 7-26-84

RD REQUESTED COMPLETION DATE 10-1-84

EEB ESTIMATED COMPLETION DATE 9-24-84

RD ACTION CODE/TYPE OF REVIEW 165/Old Chemical

TYPE PRODUCT(S): I, D, H, F, N, R, S Insecticide

DATA ACCESSION NO(S).

PRODUCT MANAGER NO. A. Heyward (17)

PRODUCT NAME(S) SS Pydrin 1.9 EC

COMPANY NAME Shell Oil Company

SUBMISSION PURPOSE Proposed Registration of New Formulation Of Pydrin For Variety of Uses

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.

EEB Branch Review

Pesticide Name SS Pydrin 1.9 EC
Fenvalerate

100 Submission Purpose and Label Information

100.1 Submission Purpose and Pesticide Use

Proposed registration of new formulation of Pydrin for a variety of uses.

100.2 Formulation Information

Technical Material

Active Ingredient	% By Weight
(S)- cyano(3-phenoxyphenyl)methyl-(S)-4-chloro-alpha-(1-methylethyl) benzeneacetate	75
Inert Ingredients & Related Compounds	25
	100

Formulated Product

This product contains 1.9 lbs of SS Pydrin per gallon.

ACTIVE INGREDIENT	BY WEIGHT
(S)-cyano (3-phenoxyphenyl)methyl-(S)-4-chloro-alpha-(1-methylethyl) benzeneacetate	24%
INERT INGREDIENTS & RELATED COMPOUNDS	76%
TOTAL	100%

100.3 Application Methods, Directions Rates

See attached labels

100.5 Precautionary Labeling

ENVIRONMENTAL HAZARDS

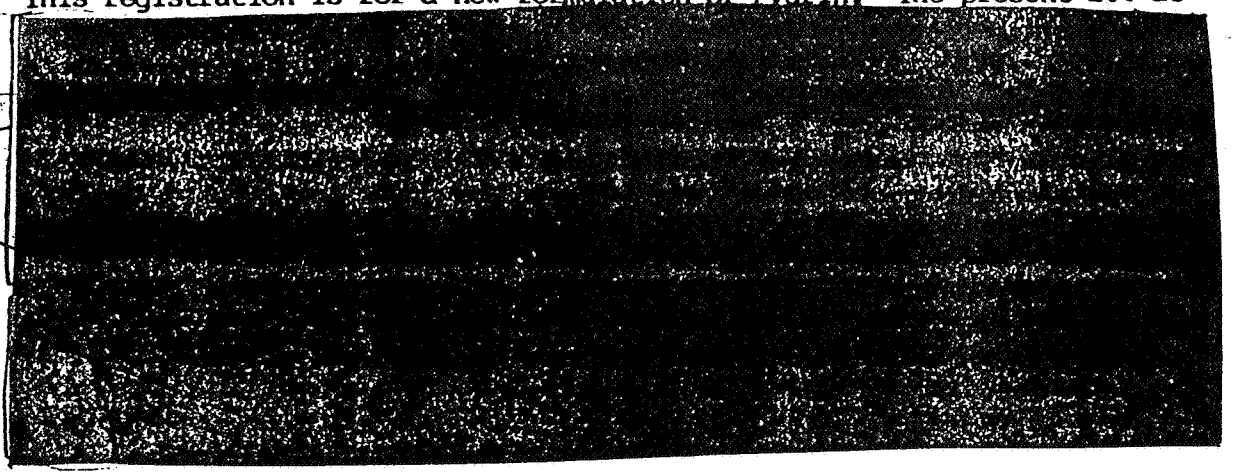
This pesticide is extremely toxic fo fish. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water. Do not apply when weather conditions favor drift from treated areas. Do not contaminatewer by cleaning of equipment or disposal of wastes. Apply this product only as specified on this label.

WILDLIFE PROTECTION IS EVERYONE'S RESPONSIBILITY

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply PYDRIN or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area. Additional information may be obtained by consulting your Cooperative Extension Service.

101 Hazard Assessment

This registration is for a new formulation of Pydrin. The present 2.4 EC



Manufacturing process

The 1.9 EC label contains the new registrations for Pydrin. This is of concern. Normally cotton is the crop that has the maximum dosage rate and number of applications. Also other crops such as corn and soybeans usually have a maximum of two or three applications per growing season. This definitely is not the case with Pydrin. Cotton rates vary from 0.011 to 0.045 lb ai/A depending upon infestation, with a maximum of 0.45 lb ai/A per growing season. This translates from 20 to 40 applications. Field corn has the same application rate, but a maximum of 0.225 lb ai/A. The dosage remains the same, but only one half as many applications. Soybeans have the same application dosage, but a maximum of 8 to 16 applications.

Essentially all the other crops have cotton dosages and approach cotton in number of applications. All of these are based on an incremental risk based on cotton. Unfortunately a risk assessment has not been done on cotton because of faulty data submitted by the company. Cotton comprises approximately 15 million acres. If just corn and soybeans are considered, this increases the potential use another 155 million acres. A much used argument is there has been no adverse effects noted to date with field use. This argument is essentially groundless. First an active effort must be made to document kills. Even then, only the gross effects are noted; large organisms easily seen. Even when noticed the cause and effect require residue data. Both the registrant and EEB are quite aware that measuring pyrethroid residues are analytically difficult.

This new formulation will only compound the problem. The old technical material had aquatic LC$_{50}$s in the fractions of ppb to parts per trillion range. These figures can be divided by four if the information supplied by the company is correct. EEB wonders if analytical procedures are in place that can measure the parent compound and residues at these levels?

103 Conclusions

EEB has reservations about this new formulation. These concerns are not with the formulation per se but use and analytical problems. Shell still has an outstanding field study requirement for a cotton registration. Yet more registrations are being granted on an incomplete cotton assessment. The dosages for these crops, corn and soybeans for examples, are equivalent in dosages to cotton and are about one half of the maximum number of applications. If there are any adverse effects with the cotton use, similar effects can be anticipated to a similar degree in the other crops. The problem is compounded by the fact that analytical procedures might not be able to detect the chemical at the limits that cause adverse effects. EEB cannot make an assessment on Pydrin because the needed field study requested for the cotton registration is still outstanding.

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