3-29-92

D161552
DPBARCODE (RECORD)
028201
SHAUGHNESSY NO

REVIEW NO.

EEB REVIEW

DATE IN: 2-25-91 OUT: MAR 24 1992
ASSIGNED:
CASE # :818688 REREG CASE #:
SUB. # :S391187 LIST A, B, C, D
ID # :028201

DATE OF SUBMISSION 1-23-91

DATE RECEIVED BY EFED 2-25-91

SRRD/RD REQUESTED COMPLETION DATE 5-22-91

EEB ESTIMATED COMPLETION DATE 3-15-92

SRRD/RD **ACTION** CODE/TYPE OF REVIEW 660

MRID #(S)	41776701	123-2	ANABAENA FLOS-AQUAE	NOT ACCEPTABLE
	41777201	123-2	LEMNA GIBBA	NOT ACCEPTABLE
	41777301	123-2	SELANASTRUM CAPRICORN.	NOT ACCEPTABLE
	41777401	123-2	SKELETONEMA COSTATUM	ACCEPTABLE
	41777501	123-2	NAVICULA PELLICULOSA	ACCEPTABLE

DP TYPE 001

PRODUCT MANAGER, NO. LOIS ROSSI

PRODUCT NAME(S) DICHLOROPROPIONANILIDE

TYPE PRODUCT

COMPANY NAME PROPANIL TASK FORCE

SUBMISSION PURPOSE REVIEW DATA, DETERMINE STATUS OF DATA REQUIREMENTS FOR REREGISTRATION

COMMON CHEMICAL NAME

REVIEWER: MIKE DAVY

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

MAR 24 1992

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

MEMORANDUM

SUBJECT: Review of Propanil nontarget plant studies submitted by Propanil Task Force, DP Barcode D161552

FROM: Doug Urban, Acting Chief
Ecological Effects Branch
Environmental Fate and Effects Branch 3/16/92

TO: Lois Rossi, PM74
Fungicide-Herbicide Branch
Registration Division (H7505C)

This is the second memorandum pertaining to D161552. The Ecological Effects Branch has reviewed the five nontarget aquatic plant (123-2) studies submitted by Propanil Task Force for propanil. The following is a brief summary of the submitted studies:

Giddings, J.M., M.C.R. Bayne, J. Mao, and Shepherd, S.P. 1990. Propanil- Toxicity to the Marine Diatom Skeletonema costatum. SLI Report No. 90-3-3255. Performed by Springborn Laboratories, Inc., Wareham, Massachusetts. Submitted by The Propanil Task Force, Liberty, Missouri. EPA MRID No. 417774-01.

This study is scientifically sound and fulfills the guideline requirements for a Tier II growth and reproduction of a non-target marine diatom test. Based on cell density, the 5-day EC_{50} value of Propanil was 0.030 mg a.i./L (mean measured concentration). The 5-day NOEC was 0.013 mg a.i./L (mean measured concentration).

Giddings, J.M., M.C.R. Bayne, J. Mao, and S.P. Shepherd. 1990. Propanil - Toxicity to the Freshwater Blue-Green Alga Anabaena flos-aquae. SLI Study No. 90-3-3273. Prepared by Springborn Laboratories, Inc., Wareham, Massachusetts. Submitted by The Propanil Task Force, Liberty, Missouri. EPA MRID No.417767-01.

This study is scientifically sound but does not fulfill the guideline requirements for a Tier II growth and reproduction of a non-target algal test since light intensity is 40 percent lower than recommended by SEP. Based on total cell density, the 5-day EC_{50} value of Propanil for Anabaena flos-aquae was 0.111 mg a.i./L (95 percent confidence limits are 0.082 and 0.146). The 5-day NOEC was 0.025 mg a.i./L (mean measured concentration).

Giddings, J.M., M.C.R. Bayne, and J. Mao. 1990. Propanil - Toxicity to the Freshwater Diatom Navicula pelliculosa. SLI Report No. 90-3-3254. Performed by Springborn Laboratories, Inc., Wareham, Massachusetts. Submitted by The Propanil Task Force, Liberty, Missouri. EPA MRID No. 417775-01.

This study is scientifically sound and fulfills the guideline requirements for a Tier II growth and reproduction of a non-target freshwater diatom test. Based on total cell density, the 5-day EC_{50} value of Propanil was 0.016 mg a.i./L (95 percent confidence limit is 0.006 and 0.036). The 5-day NOEC was 0.0063 mg a.i./L, based on mean measured concentrations.

Giddings, J.M., M.C.R. Bayne, and J. Mao. 1990. Propanil - Toxicity to the Freshwater Green Alga Selenastrum capricornutum. SLI Study No. 90-3-3253. Prepared by Springborn Laboratories, Inc., Wareham, Massachusetts. Submitted by The Propanil Task Force, Liberty, Missouri. EPA MRID No. 417773-01.

The study is invalid and does not meet the guideline requirement for a Tier II study of non-target aquatic plant growth and reproduction using a freshwater green alga because the submitted study is interspersed with information from other studies.

Giddings, J.M., C. DeCosta, J. Mao, and S.P. Shepherd. 1990. Propanil - Toxicity to Duckweed (Lemna gibba G3). SLI Report No. 90-4-3294. Performed by Springborn Laboratories, Inc., Wareham, Massachusetts. Submitted by The Propanil Task Force, Liberty, Missouri. EPA MRID No. 417772-01.

This study appears to be scientifically sound but does not meet the guideline requirements for a Tier II -growth and reproduction of a non-target area aquatic plant study, since test procedures deviated from SEP recommendations in light intensity, temperature and algae contamination. Based on number of fronds, the 14-day EC_{50} value of Propanil for Lemna gibba was 0.110 mg a.i./L (0.074 - 0.161). The NOEC value was 0.02 mg a.i./L (mean measured concentration).

The following studies fulfill EEB data requirements:

123-2 Aquatic Plant Growth and Reproduction

Skeletonema costatum	417774-01
Navicula pelliculosa	417775-01

The following three studies do not fulfill the data requirements and are required for EEB to do a complete hazard assessment:

123-2 Aquatic Plant Growth and Reproduction

Anabaena flos-aquae	417767-01
Selenastrum capricornutum	417773-01
Lemna gibba	417772-01

The following data requirements for propanil are outstanding and are required for EEB to do a complete hazard assessment:

71-4 Avian Reproduction (Duck & Quail)- Data required due to persistence of herbicide during breeding season. Information from Fate indicates that half-life in soil ranges from 30 to 40 days, 58% of the chemical hydrolyses in 28 days at Ph of 5 and chemical is stable at Ph 7 and 9, and half-life in Lake Superior is 60 days.

71-5 Life Cycle Fish- The EEC (6 lb ai/A x 734 ppb applied to rice= 4.4 ppm) is greater than one-tenth of no-effect level in early life stage of fish (MATC of Fathead Minnow >19 and <34 μg ai/L)). Data also required per Dec.23,1987 EPA Pesticide Fact Sheet listing this study as a data gap.

123-1 Seed Germination- Data required since this herbicide is being applied to terrestrial or aquatic food sites and is applied aerially.

123-1 Seedling Emergence- Data required since this herbicide is being applied to terrestrial or aquatic food sites and is applied aerially.

123-1 Vegetative Vigor- Data required since this herbicide is being applied to terrestrial or aquatic food sites and is applied aerially.

201-1 Droplet Size Drift- Data required due to aerial application of propanil.

201-2 Drift Field Evaluation- Data required due to aerial application of propanil.

In addition to the above, further data may be required depending on the results of the above and their impact on non-target organism: e.g. aquatic and terrestrial field studies.

For further questions regarding this review, please contact Mike Davy at 305-7081.