7/27/88

217423 (4 record actions)
RECORD NO.

SHAUGHNESSEY NO. REVIEW NO.

EEB REVIEW

DATE: IN 3-21-88 OUT 7-27-88

FILE OR REG. NO 239-1633 (4 actions)

PETITION OR EXP. NO.

DATE OF SUBMISSION

DATE RECEIVED BY HED 3-17-88

RD REQUESTED COMPLETION DATE 5-16-88

EEB ESTIMATED COMPLETION DATE 5-16-88

RD ACTION CODE/TYPE OF REVIEW 660

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

DATA ACCESSION NO(S).

PRODUCT MANAGER NO. W. Miller (16)

PRODUCT NAME(S) Dibrom 8E

COMPANY NAME Chevron

SUBMISSION PURPOSE submission of aquatic toxicity data

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

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

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Naled Registration Standard; Aquatic Organism Toxicity Studies; EPA Accession Numbers 263578,-79,-80, and -81

TO: Dan Peacock, PM 16
Insecticide-Rodenticide Branch
Registration Division TS-767C

FROM: for Jim Ackerman, Branch Chief
Ecological Effects Branch
Hazard Evaluation Division TS-769C

7/27/88

EEB has reviewed the above referenced studies, submitted by Chevron Chemical Company to support the data requirements of the Naled Registration Standard. The studies consist of technical testing on estuarine organisms and formulation testing freshwater organisms. The review results are summarized below.

I. Technical Studies

Guideline Ref. No.	Test Species	%a.i.	Test Type	Reported Results	Toxicity Category	Fulfills Requirement
72-3	Grass Shrimp	90	96-hr LC_{50}	27 ug/l	Very Highly Toxic	No
72-3	Sheeps-head minnow	90	96-hr LC_{50}	1.2 mg/l	Moderately Toxic	Yes
72-3	Eastern Oyster	90	48-hr EC_{50} shell deposition	0.19 mg/l	Highly Toxic	Yes

II. Formulation Studies

A. Ortho Dirom 8 Elusive

Guideline Ref. No.	Test Species	%a.i.	Test Type	Reported Results	Toxicity Category	Fulfills Requirement
72-1	Rainbow trout	58	96-hr LC_{50}	0.13 mg/l	Highly Toxic	No
72-1	Bluegill Sunfish	58	96-hr LC_{50}	0.24 mg/l	Highly Toxic	No
72-2	Daphnia magna	58	48-hr LC_{50}	1.5 ug/l	Very Highly Toxic	No

B. Ortho Fly Killer D

Guideline Ref. No.	Test Species	%a.i.	Test Type	Reported Results	Toxicity Category	Fulfills Requirement
72-1	Rainbow trout	36	96-hr LC_{50}	0.34 mg/l	Highly Toxic	No
72-1	Bluegill Sunfish	36	96-hr LC_{50}	1.2 mg/l	Moderately Toxic	No
72-2	Daphnia magna	36	48-hr LC_{50}	0.002 mg/l	Very Higly Toxic	No

C. Ortho Dibrom LVC 10

Guideline Ref. No.	Test Species	%a.i.	Test Type	Reported Results	Toxicity Category	Fulfills Requirement
72-1	Rainbow trout	15	96-hr LC_{50}	0.21 mg/l	Highly Toxic	Yes
72-1	Bluegill Sunfish	15	96-hr LC_{50}	0.6 mg/l	Higly Toxic	Yes
72-2	Daphnia magna	15	48-hr LC_{50}	2.9 ug/l	Very Highly Toxic	No

The registrant is advised to consult the data evaluation records for those individual studies found to be inadequate for guideline fulfillment. The study records will advise on the repairability of each study requiring additional data or repeated testing.

Based upon the reported results and toxicity characteristics established by these aquatic organisms' studies and the use patterns' hazard assessments previously conducted by EEB for the Naled Registation Standard, previously reserved higher tiered studies are justified. A fish early life stage study and an aquatic invertebrate life cycle study will be required. Freshwater and estuarine species testing will be required for each study type. The justifications for the studies are based upon the results of the acute toxicity studies and mosquito control uses of naled which involve applications to swamps, marshes, or other aquatic environments targeted by public mosquito control programs.

As indicated by the EEB Science Chapter for the Naled Registration Standard, the mosquito control fogging applications could produce EECs that would pose risk to aquatic organisms. It was determined that the present environmental fate database was insufficient for complete hazard assessment purposes and the determination of aquatic EECs from fogging applications. If the application rate of 0.25 lb/A were to completely enter the water, it would produce an aquatic EEC of 184 ppb (0.5 ft. depth) which would exceed the LC_{50} of 160 ppb for salmonids. Even if 0.02% of the 0.25 lb/A application rate were to enter the water, the EEC would reach the LC_{50} of 0.3 ppb for aquatic invertebrates (i.e., Daphnia).

Field studies will continue to be reserved pending the review results of environmental fate studies, in addition to the required studies specified above.

If there any additional questions concerning this action, please contact John Noles at 557-1945.