

SHAUGHNESSY NO.

REVIEW NO.

EEB REVIEW

APR 18 1986

DATE: IN 11/25/85 OUT

FILE OR REG. NO. 464-502

PETITION OR EXP. PERMIT NO.

DATE OF SUBMISSION 07/11/85

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RD ACTION CODE/TYPE OF REVIEW 306

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

DATA ACCESSION NO(S).

PRODUCT MANAGER NO. R. Taylor (25)

PRODUCT NAME(S) Tordon K Salt Liquor

COMPANY NAME Dow Chemical U.S.A.

SUBMISSION PURPOSE Submission of raw data for acute and chronic aquatic studies in response to previous EEB review

SHAUGHNESSY NO.	CHEMICAL & FORMULATION	% A.I.



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

APR 18 1986

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Evaluation of Raw Data for Chronic Daphnia
and Rainbow Trout Study

FROM: *Michael Rexrode*
Michael Rexrode, Fishery Biologist
Ecological Effects Branch
Hazard Evaluation Division (TS-769C)

TO: Robert Taylor, PM 25
Fungicide-Herbicide Branch
Registration Division (TS-767C)

THRU: Norman Cook, Section Head *Norman Cook*
Ecological Effects Branch
Hazard Evaluation Division (TS-769C)

and

Michael Slimak, Chief *Michael Slimak*
Ecological Effects Branch
Hazard Evaluation Division (TS-769C)

The Ecological Effects Branch (EEB) reviewed two chronic studies (Rexrode, February 25, 1985) pertaining to Tordon K Salt Liquor. The studies (Daphnia life-cycle and rainbow trout early life-cycle) were evaluated as supplemental since only summary data were presented. However, in order to verify the registrant's conclusions, EEB requested that the appropriate raw data be provided. This information was recently submitted to the Agency (November 25, 1985) and analyzed with the following results.

1. Daphnia chronic toxicity testing for Tordon K Salt Liquor (93.8% ai).
 - a. Data on mean total young and mean brood size were analyzed by Analysis of Variance (ANOVA) and Duncan's Multiple Range Test (Appendix B and C).

An MATC between 11.8 and 18.1 mg/L was calculated, indicating that a significant ($\alpha = 0.05$) impact was found at toxicity levels of 18.1 mg/L. This agrees with the registrant's findings and confirms that the study appears to be scientifically sound and will support Registration.

Registration Category: Upgraded to Core.

2. Toxicity of Technical Picloram to the Embryo, Larval, and Juvenile Stages of the Rainbow Trout (Salmo gairdneri Richardson).
 - a. The replicate data were evaluated resulting in the following conclusions:
 - (1) Data on hatch and normal larvae indicate an insignificant difference between controls and treatments. The percent hatch ranged from 99.2 to 100. The percent of normal larval at hatch ranged from 95.8 to 97.5.
 - (2) Data on mean weights were analyzed by Analysis of Variance (ANOVA) and Duncan's Multiple Range Test (Appendix D). A well defined concentration response was noted at 0.88 mg/L and higher. An MATC between 0.55 mg/L and 0.88 mg/L was found to be in agreement with the registrant's findings.

Registration Category: Upgraded to Core.

Reviewer's Conclusions:

Both the Daphnia chronic testing study and the rainbow trout embryolarvae study appear to be scientifically sound and will support registration. Picloram appears to be moderately toxic to rainbow trout larvae (0.55 mg/L > MATC > 0.88 mg/L) and practically nontoxic to Daphnia larvae (11.8 mg/L > MATC > 18.1 mg/L).

Picloram Ecological Effects Branch Review

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Pages 4 through 10 are not included in this copy.

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