3-8-88

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

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Review of fenvalerate toxicity studies on Daphnia

FROM: David Johnson, Ph.D.
Fishery Biologist
Ecological Effects Branch

David Johnson 7 March 88

THROUGH: Otto Gutenson, Acting Head-Section 4
Ecological Effects Branch
Hazard Evaluation Division (TS-769C)

3/8/88

THROUGH: Henry Craven, Acting Chief
Ecological Effects Branch
Hazard Evaluation Division (TS-769C)

Henry T. Craven

TO: G. Larocca, Product Manager 15
Registration Division

E.I. Dupont De Nemours and Company, Inc. has submitted four Daphnid studies for review. Our reviews of these studies, and our conclusions are summarized below.

1. Hutton, D.G., 1987. Daphnia magna static acute 48-hour EC50 of technical Asana insecticide. Report number: 402-87, Prepared by E.I. du Pont de Nemours and Company, Inc., Haskell Laboratory, Newark, DE. Submitted by E.I. du Pont de Nemours and Company, Inc. Newark, DE. Assession No: 404440-02.

The technical grade of Asana^{tm} (fenvalerate) was found to be extremely toxic to Daphnia, with a 48h LC50 of 0.9 ppb. This study is scientifically sound.

2. Hutton, D.G., 1987. Chronic toxicity of technical Asana insecticide to Daphnia magna. Report number: 589-87, Prepared by E.I. du Pont de Nemours and Company, Inc., Haskell Laboratory, Newark, DE. Submitted by E.I. du Pont de Nemours and Company, Inc. Newark, DE. Assession No: 404440-01.

The study is judged to be core, but the deviations in dissolved oxygen are noted to be a significant shortcoming. The NOEL (52 nanograms/L) and the MATC ($\geq$52ng/L & $\leq$79ng/L) indicate that fenvalerate is extremely toxic to daphnids on a chronic basis.

3. Hutton, D. G. 1987. Fed Daphnia magna static acute 48-hour EC50 of technical asana insecticide. Prepared by E.I. du Pont de Nemours and Company, Inc., Haskell Laboratory, Newark, DE. Submitted by E.I. du Pont de Nemours and Company, Inc. Newark, DE. Assession No: 404440-03.

This study does not address any current Guideline standard, and therefore was not reviewed.

4. McKee, M.J. and C.O. Knowles. 1986. Effects of fenvalerate on biochemical parameters, survival, and reproduction of Daphnia magna. Ecotoxicology and Environmental Safety 12: 70-84. Submitted by E.I. du Pont de Nemours and Company, Inc. Newark, DE. Assession No: 404493-01.

This study does not address any current Guideline standard, and therefore was not reviewed. EEB will retain a copy of this report as supplemental data for our files.

B:fenval.der