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

AUG 25 1992

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Fish Life Cycle Protocol for TPTH

FROM: Douglas J. Urban, Acting Chief
Ecological Effects Branch
Environmental Fate and Effects Division (H7507C)

TO: Walt Waldrop, (71)
Reregistration Branch
Special Review and Reregistration Division (H7508W)

The fish life cycle toxicity test protocol developed by ABC Laboratories, Inc. for Hoechst Celanese (revised 21 August 1991; ABC Study Number 39443) has been reviewed. This protocol is generally consistent with recommended procedures under the Guidelines reference 72-5 and but does not incorporate recommendations made in a fish life cycle protocol review for ABC Laboratories (Urban, 8/5/91). The protocol allows for fewer eggs and fish per treatment level than is preferred by EEB for these tests. Specifically, 50 eggs per replicate (200 eggs per concentration) is preferred as opposed to the 35 eggs per replicate (140 eggs per concentration) proposed. After hatching, 25 larval-juvenile fish should be maintained per replicate (100 per concentration) until 112 days post-hatch when they may be thinned to 25 for retention until final selection of 8 spawning pairs. The fewer fish proposed by ABC of 25 thinned to 15 per replicate and only 20 fish held for selection of spawning pairs may not supply sufficient survivors to provide for 8 reproducing pairs of adults, especially at the higher treatment levels. Also, the fewer number of eggs and fry will reduce the power of the test to differentiate effects. Biological acceptability criteria (performance criteria for controls) in section 5.4 should be revised more stringently. It is recommended that overall egg hatchability be $\geq$ 80% overall, fry survival from two days post-hatch to 56 days post-hatch should be $\geq$ 80% overall, and overall survival to day 112 post-hatch (at transfer to spawning aquaria) should be $\geq$ 70% .

Finally, TPTH as an organotin may be expected to bioaccumulate and it is, therefore, recommended that residues are analyzed for eggs, fry, and adult minnows. Fry to be analyzed for whole body residue can be taken from a sample at thinning, eggs from those spawned during the test, and a sample of adults can be taken at test termination. It is recommended that residues be measured at least for the low, mid, and high treatment levels.