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

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OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

MEMORANDUM

SUBJECT: EEB Review of Registrant's 3(C)2B 90-day Response

FROM: Douglas Urban, Acting Chief
Ecological Effects Branch
Environmental Fate and Effects Division

Douglas Urban
3/9/92

TO: Bruce Sidwell
Product Manager (53)
Reregistration Branch
Special Review and Reregistration Division

The Ecological Effects Branch has reviewed three acute toxicity studies submitted in response to a 3 (C) 2 B letter. Oxyfluoren, also known as Goal 1.6E (19.5% a.i.), was assessed for its toxicity to two species of aquatic invertebrates in either a water column or soil-incorporation test. The results from our reviews are presented below.

CITATION: Swigert, J.P. 1989. Acute Toxicity of Soil-Incorporated ¹⁴C-Goal® 1.6E to Midge Larvae, (Chironomus tentans). Final Report No. 37582. Rohm and Haas Report No. 88RC-0080. Prepared by Analytical Bio-Chemistry Laboratories, Inc., Columbia, MO. Submitted by Rohm and Haas Company, Spring House, PA. EPA MRID No. 420480-01.

Conclusion: The study using soil with high organic matter (HOM) was not scientifically sound. Excessive mortality (47%) was observed in control replicate A in the HOM soil test. The study using soil with low organic matter (LOM) was scientifically sound but failed to meet the guideline requirements for a sediment toxicity test using midge larvae. The concentrations tested were not high enough to produce an EC₅₀ value although less than 100 ppm. The 96-hour EC₅₀ was >7.8 ppm (mg/kg), the highest concentration tested. A no-observed-effect concentration was not determined in this test.

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This study does not satisfy the data requirement for formulated material.

CITATION: Forbis, A.D. 1986. Acute Toxicity of ¹⁴C-Goal® 1.6E Herbicide to Midge Larvae (*Chironomus tentans*). Final Study No. 34971. Rohm and Haas Report No. 87RC-0003. Prepared by Analytical Bio-Chemistry Laboratories, Inc., Columbia, MO. Submitted by Rohm and Haas Company, Spring House, PA. EPA MRID No. 420480-02.

CONCLUSIONS: This study was not scientifically sound and failed to meet the guideline requirements for a static-acute toxicity test using the midge larvae, *Chironomus tentans*. The midge larvae were at dissimilar developmental stages (reported as third-fourth instar) and were not approximately the same age. The test procedures and culture conditions outlined in the test report were confounding. On the basis of the 48-hour LC₅₀, 0.27 mg/l (mean measured concentration), Goal 1.6E may be classified as being highly toxic to midge larvae. The NOEC was 0.085 mg/l mean measured concentration.

This study does not satisfy data requirements for formulated material.

CITATION: Swigert, J.P. 1986. Acute Toxicity of ¹⁴C-Goal® 1.6E Herbicide to the Mayfly, *Hexagenia* sp. Final Report No. 34972. Rohm and Haas Report No. 87RC-0008. Prepared by Analytical Bio-Chemistry Laboratories, Inc., Columbia, MO. Submitted by Rohm and Haas Company, Spring House, PA. EPA MRID No. 420480-03.

CONCLUSIONS: This study was not scientifically sound. The measured concentrations greatly decreased during the test period; consequently the actual concentrations that the mayflies were exposed to were unknown. The 48-hour EC₅₀ value was determined to be 0.11 mg/l (mean measured concentration). Goal 1.6E was classified as being highly toxic to mayfly nymphs. An NOEC value could not be determined in the test due to mortality at all concentration levels.

This study does not satisfy data requirements for formulated material.

All but one of the above studies have been classified as Invalid due to major discrepancies described in the respective data evaluation records (See Attached DERs). The LOM soil-incorporation study could be classified as supplemental, although no EC₅₀ was determined despite test concentrations being less than 100 mg/L.

If you have any questions or comments, please contact Tom A. Bailey (703-305-6666).

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