

5-4-87
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DATA EVALUATION RECORD

CASE: 238

DIAZINON

CONT-CAT: 01 GUIDELINES: 72-2

MRID: 109022

Vilkas, A. (1976) Acute Toxicity of Diazinon Technical to the Water Flea, *Daphnia magna* straus: AES Proj. No. 7613-500. (Unpublished Study Received September 15, 1977 under 100-524; prepared by Union Carbide Corp., submitted by Ciba-Geigy Corp., Greensboro, NC; CDL:231800-P).

REVIEW RESULTS:

VALID INVALID INCOMPLETE

GUIDELINE: SATISFIED PARTIALLY SATISFIED NOT SATISFIED

DIRECT RVW TIME = 30 Minutes START DATE: 06/13/86 END DATE: 06/13/86

REVIEWED BY: Margaret Rostker
TITLE: Ecologist
ORG: EEB/HED
LOC/TEL: 557-7562
SIGNATURE: _____

H.T. Craven
5/4/87

DATE: 06/13/86

APPROVED BY: Harry Craven
TITLE: Section Head
ORG: EEB/HED
LOC/TEL: 557-1741
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DATE: *H.T. Craven*
5/4/87

Core study showing Daphnia LC₅₀ = 0.83 ppb for technical diazinon.

1/2

Data Review Number: (ES) VII H-1

Test: 48-Hour Acute LC₅₀ (Aquatic invertebrate)

Species: Daphnia magna

Results: LC₅₀ = 0.96 ppb (0.83 to 1.10 ppb)

Chemical: Diazinon (Technical)

Title: Acute Toxicity of Diazinon Technical to the Water Flea (Daphnia magna straus)

Accession No. 228039

Study Date: August 10, 1976

Researcher: Aquatic Environmental Sciencies

Registrant: Ciba-Geigy Corporation

Validation Category: Core

Category Repairability: N/A

Abstract: - No effect concentration level was 0.56 ppb.
- 95% mortality at 1.80 ppb.

Validation Category Rationale:

The test procedures reported were determined to be scientifically sound. The 48-hour acute LC₅₀ was calculated from high mortality rates (65% and 95%) recorded at only two concentration levels of the toxicant.

EPA protocol for 48-hour acute LC₅₀ tests for aquatic invertebrates (U.S. Environmental Protection Agency, 1975. Methods for acute toxicity tests with fish, macroinvertebrates, and amphibians. EPA-660/3-75-00, 61 pp.) specify that one treatment must have affected less than 35 percent of the organisms exposed to it. Therefore, the accuracy of the LC₅₀ value (LC₅₀ = 0.96 ppb) reported for this study is questionable. However, there was no mortality of test organisms at 0.56 ppb. Clearly, the true LC₅₀ concentration level is between 0.56 ppb and 1.00 ppb.

Because the median LC₅₀ value for Daphnia magna exposed to Diazinon technical was calculated from test results which did not conform completely with EPA criteria, the Environmental Safety Section will use the low 95 percent confidence limit of the median value (LC₅₀ = 0.83 ppb) in its hazard assessment of the toxicant.