File No. 128850

DATA EVALUATION RECORD

1. CHEMICAL: Monoammonium-2-amino-4-(hydroxymethyl phosphinyl) butanate

2. FORMULATION: HOE 39866 OH SL19 A126
Soluble concentrate 200 g/L (19.1.a.1.)

3. CITATION: Fisher, R. 1983. The effect of HOE 039866 on OH SL19 A126 on Daphnia magna (Waterflea) in a static test. Performed by Hoechst AG, Frankfurt, FRG; submitted by American Hoechst Corp., Somerville, NJ; Registration No. 8340-EUP-RN; Accession No. 072967.

4. REVIEWED BY: John J. Bascietto
Wildlife Biologist
Ecological Effects Branch/HED

5. DATE REVIEWED: November 30, 1984

6. TEST TYPE: Acute Toxicity to Freshwater Aquatic Invertebrate

A. Daphnia magna, waterflea

7. REPORTED RESULTS: 48-hr LC_{50} = 79.5 mg/L (63.2 - 102) (nominal)

8. REVIEWER'S CONCLUSIONS: The study is scientifically sound. However, the study ~~does not~~ would fulfill a guidelines requirement ~~because~~ if one were imposed for a formulation.

a. No ~~% a.i. reported.~~ ?/.

b. Inadequate discussion of preparation of toxicant working solutions. ✓ repaired

c. No indication of the volume of toxicant solutions to which animals were exposed. ✓ repaired

9. MATERIALS/METHODS:

A. Test Procedures:

Daphnids were from laboratory stock. First instars were used. Breeding temperature = 20°C. Fed with monocellular green algae.

EPA "soft" reconstituted, deionized water was used as the test medium. The concentrations of toxicant were prepared by direct introduction of chemicals (based on assumed 100% purity) weighed out to precision of 0.1 mg.

Ten (10) daphnids were used per concentration, in 200 ml glass jar. D.O., pH and water temperature were monitored initially and at 24 and 48 hours., in the high, medium and low concentrations. A water bath was used to keep temperature at about 20°C.

Test criteria were death or immobilization.

B. Statistical Analysis:

The LC_{50} and 95% a.i. were calculated by the computerized probit analysis by SAS.

10. RESULTS:

LC_{50} = 79.5 (63.2 - 102) mg/L
Percent mortalities listed in Table 1.

Physico-chemical parameters - Table 3.

11. REVIEWER'S EVALUATION:

A. Test Procedures:

The procedure generally followed the recommended protocol but several important items need explanation or did not follow recommended protocols. These include:

- The exposure is based on nominal values. This is usually acceptable if we can validate the method used to prepare the test concentrations. In this test there was no description or tabular presentation of amounts, volumes or methods used to prepare the toxicant concentrations, nor the analytical (actual) concentrations determined during the study.

- There is no statement as to the % active ingredient in the test material.

- There is no indication of the volume of toxicant solutions used.

B. Statistical Analysis:

Not validated

C. Results:

The results are to be used cautiously since EEB cannot validate the exposure.

D. Conclusions:

1. Category: Supplemental (Core for formulation)

2. Rationale: ~~No % a.i. and missing data~~ repaired Acc. No. 256761

3. Repair: provide the information indicated as missing in "11 A" above. ✓

TABLE 1

Percent Mortalities
of
Hoe 039866 0H SL19 A126
(Hoe 039866 soluble concentrate 200 g/l)
on
Daphnia magna (Waterflea)
in a Static Test

Test grp No	Concentration mg/l	24 hours Mortality	48 hours Mortality
Control	----	0	0
I	100	60	80
II	56	0	10
III	32	0	0
IV	18	0	0
V	10	0	0
VI	5.6	0	0
VII	3.2	0	0
VIII	1.8	0	0
IX	1.0	0	0
X	0.56	0	0
XI	0.32	0	0
XII	0.18	0	0
XIII	0.1	0	0

TABLE 2 LC - values of Hoe 039866 0H SL19 A126
on Daphnia magna (Waterflea)

	24 hours	48 hours
LC_{05} mg/l 95 % Conf.lim.	* range 56 - 100	50.9 22.9 - 63.7
LC_{50} mg/l 95 % Conf.lim.	* range 56 - 100	79.5 63.2 - 102
LC_{95} mg/l 95 % Conf.lim.	* range > 100	124.3 98.4 - 288

* after 24 h test duration a LC determination could not be performed

TABLE 3 Physical and Chemical Parameters

Dilution Water: reconstituted water EPA, type "soft"
Total Hardness: 54.5 mg/l as $CaCO_3$
Total Alkalinity: 33.2 mg/l as $CaCO_3$
NO_2: 0.16 mg/l

Dissolved Oxygen mg/l

Time	Control -	Concentrations High 100 mg/l	Medium 5.6 mg/l	Low 0.1 mg/l
0 h	8.50	8.23	8.18	8.46
24 h	8.41	7.20	8.29	8.41
48 h	8.54	7.31	8.18	8.40

pH

Time	Control -	Concentrations High 100 mg/l	Medium 5.6 mg/l	Low 0.1 mg/l
0 h	7.56	7.64	7.62	7.61
24 h	7.81	7.70	7.81	7.78
48 h	7.83	7.43	7.67	7.80

Temperature °C

Time	Control -	Concentrations High 100 mg/l	Medium 5.6 mg/l	Low 0.1 mg/l
0 h	19.7	19.7	19.7	19.8
24 h	19.6	19.3	19.3	19.5
48 h	19.5	19.8	19.5	19.5

Conductivity µmhos/cm (corrected against temperature)

Time	Control -	Concentrations High 100 mg/l	Medium 5.6 mg/l	Low 0.1 mg/l
0 h	144	153	145	144
48 h	149	160	154	151

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C. Results:

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D. Conclusions:

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