4-7-82

Duplicate

DATA EVALUATION

1. CHEMICAL: Cypermethrin

2. FORMULATION: 91.5 % active ingredient (Technical grade cypermethrin)

3. CITATION Jaber, M.J., and R.E. Hawk (1981) The toxicity of cypermethrin to fathead minnow (Pimephales promelas) embryos and larvae. Unpublished report by ICI Americas Inc. Agricultural Chemicals Division submitted 12/28/81.

EPA Accession No. 070562 MRID 00076039

4. REVIEWED BY: Thomas B. Johnston
Biologist, EEB/HED

5. REVIEW DATE: April 7, 1982

6. TEST TYPE: Embryo-larvae flow through

7 REPORTED RESULTS: The reported MATC of cypermethrin for fathead minnow embryos and larvae is between 0.14 and 0.33 ppb.

8. REVIEWER'S CONCLUSIONS: This study is scientifically sound, and fulfills USEPA guideline requirements for an embryo-larvae test. With an MATC of between 0.14 and 0.33 ppb, cypermethrin is very highly toxic to the embryos and larvae of fathead minnows.

MATERIALS/METHODS

Methods used generally followed USEPA guidelines. Test were run at 25°C, rather than 22 or 27. Each test chamber contained 60 embryos. Forty (40) larvae were selected from the surviving embryos for each concentration.

STATISTICAL ANALYSES

Data were analysed by analysis of variance. Parameters examined were percentage hatch and the survival, length, and weight of larvae after 30 days exposure. If treatment effects were indicated, the means of the test parameters were compared to those of the controls using Dunnett's procedure.

RESULTS

Mean Measured[a]/ concentration (ug/l)		Hatch (%)	30 Day-old Larvae Survival (%)	Total length (mm) b/	Average weight (mg)
0.33 (0.50)	A	100	22[c]/	26(1)[b]/	139
	B	95	12[c]/	23(4)	116
0.14 (0.25)	A	98	92	20(1)	58
	B	95	90	21(2)	66
0.063 (0.12)	A	100	98	21(2)	64
	B	97	95	21(2)	65
0.045 (0.062)	A	100	100	20(2)	57
	B	97	82	22(3)	80
0.048 (0.031)	A	93	90	22(2)	75
	B	98	95	21(3)	63
Control	A	97	98	20(1)	59
	B	100	95	20(2)	58
Solvent control	A	93	95	21(2)	62

a/ Nominal concentration in parenthesis.
b/ Mean and standard deviation.
c/ Significantly ($p \leq 0.05$) different from control.

CONCLUSIONS:

Validation Category: Core

Category Rationale: N/A

Category Repairability: N/A