

US EPA ARCHIVE DOCUMENT

DP Barcode : D195367  
 PC Code No : 081901  
 EEB Out : OCT 8 1993

To: Walter Waldrop  
 Product Manager 71  
 Special Review and Reregistration Division (7508W)

From: Anthony F. Maciorowski, Chief  
 Ecological Effects Branch/EFED (7507C)

Attached, please find the EEB review of...

Reg./File # : 081901  
 Chemical Name : Chlorothalonil  
 Type Product : Fungicide  
 Product Name : \_\_\_\_\_  
 Company Name : ISK Biotech Corporation  
 Purpose : Submission of individual growth data for mysid shrimp life-cycle study.

Action Code : 627 Date Due : 12/27/93  
 Reviewer : Tracy L. Perry

EEB Guideline/MRID Summary Table: The review in this package contains an evaluation of the following:

GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT
71-1(A)			72-2(A)			72-7(A)		
71-1(B)			72-2(B)			72-7(B)		
71-2(A)			72-3(A)			122-1(A)		
71-2(B)			72-3(B)			122-1(B)		
71-3			72-3(C)			122-2		
71-4(A)			72-3(D)			123-1(A)		
71-4(B)			72-3(E)			123-1(B)		
71-5(A)			72-3(F)			123-2		
71-5(B)			72-4(A)			124-1		
72-1(A)			72-4(B)	42924901	Y	124-2		
72-1(B)			72-5			141-1		
72-1(C)			72-6			141-2		
72-1(D)						141-5		

Y=Acceptable (Study satisfied Guideline)/Concur  
 P=Partial (Study partially fulfilled Guideline but additional information is needed)  
 S=Supplemental (Study provided useful information but Guideline was not satisfied)  
 N=Unacceptable (Study was rejected)/Nonconcur

1/7



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

OCT 8 1993

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

**MEMORANDUM**

**SUBJECT:** Chlorothalonil: submission of individual growth data for mysid shrimp life-cycle study (MRID No. 424338-07).

**FROM:** Anthony Maciorowski, Branch Chief  
Ecological Effects Branch  
Environmental Fate and Effects Division (7507C)

**TO:** Walter Waldrop, PM 71  
Reregistration Branch  
Special Review and Reregistration Division (7508W)

In EEB's review of July 22, 1993, the mysid shrimp life-cycle study (MRID No. 424338-07) conducted with chlorothalonil was upgraded from invalid to supplemental. The study had the potential to be upgraded to core upon submission of individual growth data for both male and female mysid shrimp. ISK Biotech Corporation has provided these data with the current submission.

Individual growth data were analyzed using one-way analysis of variance (ANOVA) and William's test (Toxstat Version 3.3). Results show that female body weight at test termination was not significantly affected by exposure to chlorothalonil technical at the concentrations tested. Male body weight, however, was significantly increased at the top two test concentrations (see attached). Therefore, the NOEL/LOEL for male mysid shrimp weight were found to be 1.2 ug/L and 3.0 ug/L, respectively. The reproductive NOEL/LOEL, however, were 0.83 ug/L and 1.2 ug/L, respectively (see DER).

This study may now be upgraded to core and will fulfill guideline requirements for the mysid shrimp life-cycle study 72-4(b) with technical chlorothalonil (T-117-12). If you have any questions, please contact Tracy Perry at 305-6451 or Henry Craven at 305-5320.

2



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**CHLOROTHALONIL**

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Page \_\_\_\_\_ is not included in this copy.

Pages 3 through 4 are not included in this copy.

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The material not included contains the following type of information:

- \_\_\_\_\_ Identity of product inert ingredients.
  - \_\_\_\_\_ Identity of product impurities.
  - \_\_\_\_\_ Description of the product manufacturing process.
  - \_\_\_\_\_ Description of quality control procedures.
  - \_\_\_\_\_ Identity of the source of product ingredients.
  - \_\_\_\_\_ Sales or other commercial/financial information.
  - \_\_\_\_\_ A draft product label.
  - \_\_\_\_\_ The product confidential statement of formula.
  - \_\_\_\_\_ Information about a pending registration action.
  - FIFRA registration data.
  - \_\_\_\_\_ The document is a duplicate of page(s) \_\_\_\_\_.
  - \_\_\_\_\_ The document is not responsive to the request.
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The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

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Chlorothalonil: mysid shrimp - male weight  
File: chloroth.mys Transform: NO TRANSFORM

t-test of Solvent and Blank Controls

Ho:GRP1 MEAN = GRP2 MEAN

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GRP1 (SOLVENT CTRL) MEAN =	0.6417	CALCULATED t VALUE =	-3.1618
GRP2 (BLANK CTRL) MEAN =	0.8265	DEGREES OF FREEDOM =	48
DIFFERENCE IN MEANS =	-0.1849		

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TABLE t VALUE (0.05 (2),60) =	2.000**	SIGNIFICANT DIFFERENCE at alpha=0.05
TABLE t VALUE (0.01 (2),60) =	2.660**	SIGNIFICANT DIFFERENCE at alpha=0.01

Chlorothalonil: mysid shrimp - male weight  
 File: chloroth.mys Transform: NO TRANSFORM

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	solvent control	24	0.230	1.130	0.642
2	0.65 ug/L	25	0.460	0.980	0.691
3	0.83	22	0.460	0.970	0.694
4	1.2	29	0.410	0.880	0.617
5	3.0	24	0.440	1.300	0.736
6	5.7	29	0.480	0.970	0.711

Chlorothalonil: mysid shrimp - male weight  
 File: chloroth.mys Transform: NO TRANSFORM

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	solvent control	0.053	0.231	0.047
2	0.65 ug/L	0.015	0.124	0.025
3	0.83	0.018	0.135	0.029
4	1.2	0.012	0.109	0.020
5	3.0	0.027	0.164	0.033
6	5.7	0.016	0.127	0.024

Chlorothalonil: mysid shrimp - male weight  
 File: chloroth.mys Transform: NO TRANSFORM

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	solvent control	24	0.642	0.642	0.642
2	0.65 ug/L	25	0.691	0.691	0.664
3	0.83	22	0.694	0.694	0.664
4	1.2	29	0.617	0.617	0.664
5	3.0	24	0.736	0.736	0.722
6	5.7	29	0.711	0.711	0.722

Chlorothalonil: mysid shrimp - male weight  
 File: chloroth.mys Transform: NO TRANSFORM

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
solvent control	0.642				
0.65 ug/L	0.664	0.505		1.66	k= 1, v=147
0.83	0.664	0.488		1.73	k= 2, v=147
1.2	0.664	0.523		1.75	k= 3, v=147
3.0	0.722	1.844	*	1.77	k= 4, v=147
5.7	0.722	1.929	*	1.77	k= 5, v=147

s = 0.152

Note: df used for table values are approximate when v > 20.

NOEC = 1.2 ug/L

LOEC = 3.0 ug/L