

US EPA ARCHIVE DOCUMENT

CASE GS0315

LINDANE

PM PM# 04/05/84

CHEM 009001

Lindane ( gamma isomer of benzene hexac

BRANCH EEB DISC 40 TOPIC 05054547

FORMULATION 00 - ACTIVE INGREDIENT

FICHE/MASTER ID 00097842

CONTENT CAT 01

Sanders, H.O. (1969) Toxicity of Pesticides to the Crustacean  
#*Gammarus lacustris*#. By U.S. Fish and Wildlife Service,  
Fish-Pesticide Research Laboratory, Washington, D.C.; USFWS.  
(Technical papers of the Bureau of Sport Fisheries and Wildlife  
25; Stauffer T-2214; published study; CDL:246020-K)

SUBST. CLASS = S.

DIRECT RVW TIME = 1 (MH) START-DATE 5/8/85 END DATE 5/8/85

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There is insufficient data to validate this study. However  
this report is acceptable as supplemental. It is scientifically sound  
but does not meet our guideline requirements for an aquatic invertebrate  
acute toxicity study. With ~~an~~ a 96-hr LC50 value of 40(35-65) ug/l  
lindane is very highly toxic to mature amphipods.

Duplicate of 0000 3503

Table 2.--Estimated LC50 values and confidence limits (p=.05) for several technical grade insecticides to the scud, *Gammarus lacustris*, in bioassays conducted at 70 F.

Insecticide	P,p'DDT reference at 24-hrs.	LC50, micrograms per liter		
		24-hr.	48-hr.	96-hr.
<b>Chlorinated Hydrocarbons</b>				
Methoxychlor	4.7	2.9(2.2-3.9)	1.3(0.87-1.9)	0.8 (0.56-1.1)
DDT	4.7	4.7(3.2-7.0)	2.1(1.1-3.1)	1.5 (0.68-1.5)
TDE (DDD)	4.5	5.6(3.5-8.8)	1.8(1.1-2.9)	0.64(0.35-1.2)
Endrin	4.9	6.4(4.6-8.9)	4.7(3.3-6.6)	3.0 (2.0-4.5)
Lindane	4.7	120( 83-173)	88( 57-136)	48( 35- 65)
Heptachlor	4.7	150( 94-240)	100( 84-118)	29( 18- 48)
Chlordan	5.2	160(120-220)	80( 62-102)	26( 21- 30)
Toxaphene(R)	5.2	180(112-288)	70( 36-135)	26( 24- 28)
Aramite	4.7	350(250-500)	100( 60-160)	60( 43- 84)
Tetraflon	5.0	370(230-500)	140(100-200)	110( 80-150)
Dilam (R)	5.7	800(640-970)	600(570-680)	350(300-400)
Dieldrin	4.9	1,400( 1,000- 1,800)	1,000( 760- 1,300)	660(370-970)
Aldrin	5.2	45,000(30,000-67,500)	12,000(8,500-16,800)	9,800(7,200-13,200)
<b>Phthalocarbamates</b>				
Matacyl (R)	4.9	39(30-41)	29(21-39)	12( 8-17)
Carbaryl (R)	4.7	40(32-49)	22(16-30)	16(12-19)
Baygon (R)	4.9	66(54-79)	37(40-62)	34(29-39)
Zectran (R)	4.7	86(61-120)	30(21-91)	60(34-92)
<b>Butenicals</b>				
Fenethrin	5.3	28(20-39)	18(14-24)	12(8-17)
Allethrin	5.3	38(30-48)	20(14-28)	11(8-15)
Rotenone	5.0	6,000(5,000-7,200)	3,500(2,900-4,300)	2,600(2,100-3,200)