

US EPA ARCHIVE DOCUMENT

FORMULATION:			IA	IB	T	FW	EC	R		
% a.i.	SC#	CHEMICAL NAME	Validator:			Date:				
Technical		Permethrin	R. Balcomb			Nov. 16, 1977				
92.4%		PP557	Test Type:							
			One generation Reproduction Study - Mallard							
			Test ID #		ES-W					

CITATION: Fink, R. "One Generation Reproduction Study - Mallard, PP557," Wildlife International Ltd., No. 123-113.

VALIDATION CATEGORY: ~~Supplemental~~ Core

RESULTS: PP557 was fed to mature Mallard ducks at dietary concentrations of 5 ppm and 25 ppm throughout a one generation study. Egg production, shell thickness, shell cracks, embryo viability, chick survival, body weight and food consumption were analyzed. No significant differences between control and test groups were reported.

VALIDATION CATEGORY RATIONALE: The test procedure generally follows EPA guidelines. ~~However, insufficient data are presented to verify statistical tests.~~ RB

CATEGORY REPAIRABILITY/RATIONALE: ~~Study may be repaired by submission of more complete statistical data. For example, the following data should be presented with an ANOVA F-test: Σx , \bar{x} , SS, MS, F, DF and Standard Deviation within groups.~~ N.A.

Note: See review of FMC 33297 by T. O'Brien for more complete abstraction of these data.

103.4.0 Chronic Toxicity

103.4.2 Bird

DATA REVIEW NUMBER: ES W1

TEST: Avian Reproduction - Wild Waterfowl

SPECIES: Mallard Duck (Anas platyrhynchos)

RESULTS: PP557 was fed to mature Mallard ducks at dietary concentrations of 5 ppm and 25 ppm throughout a One-Generation Reproduction Study; and had no effect on the overall reproductive success of the birds.

Based on the results of this study, environmental levels of up to 25 ppm of PP557 do not present a reproductive hazard to the Mallard duck.

CHEMICAL: PP557 Technical (92.4% A.I.)

TITLE: One Generation Reproduction Study - Mallard Duck PP557 Final Report Act 125.71

ACCESSION NO: 096699

STUDY DATE: December 2, 1976

RESEARCHER: Robert Fink
Wildlife International

REGISTRANT: FMC Corp.

VALIDATION CATEGORY: Core

CATEGORY REPAIRABILITY: N.A. - Levels tested are equivalent to those that will occur at application rate of 0.2 lb/A.I./Acre
FMC 33297 3.2 EC

VALIDATOR: Tom O'Brien - 1/28/78

ADDITIONAL INFORMATION:

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Reproductive Data - Mallard Duck

	<u>Controls</u>	<u>PP557</u> 5	<u>(ppm)</u> 25
Eggs Laid	660	541	786
Eggs Cracked	12	11	13
Eggs Set*	608	493	734
Viable Embryos	523	446	640
Live Three-Week Embryos	510	438	627
Normal Hatchlings	369	300	441
14-Day-Old Survivors	352	283	431

* Excludes those cracked and those removed for eggshell thickness analysis. The above differences were not statistically significant (p < 0.05).

	<u>Expected Values</u>	<u>Controls</u>	<u>PP557</u> 5	<u>(ppm)</u> 25
Eggs Laid Per Hen In Eight Weeks	28-38	26.4	21.6	31.4
Eggs Cracked Of Eggs Laid (%)	0.6-6.%	1.8	2.0	1.6
Viable Embryos Of Eggs Set (%)	85-98%	86	90	87
Live Three-Week Embryos Of Viable Eggs (%)	97-99%	98	98	98
Normal Hatchlings Of Live Three-Week Embryos (%)	50-90%	72	68	70

14-Day-Old Survivors Of Normal Hatchlings (%)	94-99%	95	94	98
14-Day-Old Survivors Per Hen	11-14	14.1	11.3	17.2

Statistical analysis based on data in Table 1a.
The above differences were not statistically
significant ($p < 0.05$).

Eggshell Thickness Data
Mallard Duck

	Expected Values	Controls	PP557 5	(ppm) 25
No. of Eggs Analyzed		40	40	40
Mean Shell Thickness (mm)	0.31-0.33	0.323	0.312	0.327

The above differences were not statistically
significant ($p < 0.05$).