

US EPA ARCHIVE DOCUMENT

CONFIDENTIAL

TDMS

DATA EVALUATION RECORD

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CASE GS 0014

ENDOSULFAN

PM 110 10/19/79

CHEM 079401

Endosulfan (hexachlorohexahydromethano

BRANCH EEB DISC 35 TOPIC 05000043

FORMULATION Thiodan (70% endosulfan isomer I plus 30% endosulfan isomer II)
TECHNICAL / ANALYTICAL

FICHE/MASTER ID 05005824

CONTENT CAT 01

Schimmel, S.C., Patrick, J.M., Jr., Wilson, A.J. Jr. (1979) Acute

toxicity to and bioconcentration of endosulfan by estuarine animals. Pages 241-252, in Aquatic Toxicology and Hazard Evaluation. Edited by F.L. Mayer and J.L. Hamelink, Philadelphia, Pa.: American Society for Testing and Materials



SUBST. CLASS = S

other subject descriptors

PRIM: EEB- 40-05054543

SEC: EEB -35-05000047

EEB - 40-05054547

DIRECT REVIEW TIME = 2 hrs

(MH) START DATE 7/30/81

END DATE 7/30/81

REVIEWED BY: John J. Bascietto

TITLE: Wildlife Biologist

ORG: EEB/HED

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SIGNATURE: *John J. Bascietto*

DATE: 7/30/81

APPROVED BY:

TITLE:

ORG:

LOC/TEL:

SIGNATURE:

DATE:

*See:
F.L. Mayer (1986)
HAID 40228401*

JB 8/13/81
CORE FOR MARINE/ESTUARINE SPECIES

CONCLUSIONS : The study is scientifically sound can be rated ² due to the concentration of the carrier solvent in the test was not given. This study can only be used to satisfy the Guidelines requirement for acute toxicity tests of marine and estuarine fish and invertebrates, with respect to the *technical* endosulfan.

MATERIALS AND METHODS:

Guidelines protocols for 96-hr. LC50 for fish and aquatic invertebrates, tested 70% endosulfan isomer I + 30% endosulfan isomer II. (this "analytical" grade - pure endosulfan). JB 8/13/81

REPORTED RESULTS:

<u>Species</u>	<u>96-Hr. LC50</u>
Pink Shrimp, (<u>Penaeus duorarum</u>)	0.04 ppb
Grass Shrimp (<u>Palaemonetes pugio</u>) ✓	1.3 ppb
Pinfish (<u>Lagodon rhomboides</u>) ✓	0.3 ppb
Spot (<u>Leiostomus xanthurus</u>) ✓	0.09 ppb
Stripped mullet ✓ (<u>Mugil cephalus</u>)	0.38 ppb

Maximum bioconcentration factors for endosulfan were 2249X in edible tissue and 2755X in whole body, after stripped mullet were exposed to 0.08 ppb for 28 days. After 48 hrs. in endosulfan-free seawater, no insecticide was detected in mullet edible or whole body tissues.

Discussion

No review is made for bioconcentration tests since this is in the province of the Environmental Fate Branch. This test should only be used for fulfilling a Guidelines requirement for marine or estuarine fish and aquatic invertebrates. JB 8/13/81

The authors cite: Andrienas, P.A. Agricultural Economic Report No. 252. Economic Research Service, U.S.D.A. .1974. p1-56.; with regard to the use of endosulfan in the U.S. . They state that 400,000 kg. a.i. was applied in 1971 and that 14% was in the Southeastern U.S. .