

US EPA ARCHIVE DOCUMENT



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EFGWB Out:

To: John Lee, PM #31
Registration Division (H7505C)

From: Emil Regelman, Supervisory Chemist
Environmental Chemistry Review Section #2
Environmental Fate & Ground Water Branch/EFED (H7507C)

Thru: Henry Jacoby, Chief
Environmental Fate & Ground Water Branch/EFED (H7507C)

QR 3/23/93

Attached, please find the EFGWB review of...

Reg./File # : 44891-1 *44891-8*

Common Name : TBT

Product Name : Sea Hawk Biotin 1334 White

Company Name : New Nautical Coatings, Inc.

Purpose : Review Release Rate test.

Type Product: biocide Action Code: 160 EFGWB #(s): 92-0604 Review Time: 1 day

EFGWB Guideline/MRID/Status Summary Table: The review in this package contains...

161-1		162-4		164-4		166-1	
161-2		163-1		164-5		166-2	
161-3		163-2		165-1		166-3	
161-4		163-3		165-2		167-1	
162-1		164-1		165-3		167-2	
162-2		164-2		165-4		201-1	
162-3		164-3		165-5		202-1	
release rate	422155-01	A					

A= Acceptable (Study provides scientifically valid and fully documented information).
 U= Upgradeable (Study provides scientifically valid information, but is missing certain data necessary for complete validation).
 C= Ancillary (Study appears to provide scientifically valid information, but data cannot be verified).
 I= Invalid (Study does not provide scientifically valid information).

1. CHEMICAL:

chemical name: Tributyltin
common name: TBT

2. TEST MATERIAL:

Sea Hawk Biotin 1334 White ID #: 44891-I

3. STUDY/ACTION TYPE:

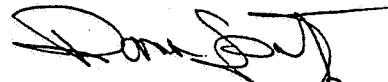
Review release rate data submitted in support of registration.

4. STUDY IDENTIFICATION:

Anthony, Charles. "Leach Rate Determinations of Antifoulant Paints Containing Tributyltin." Performed by Case Consulting Laboratories, Inc. for New Nautical Coatings, Inc. Received by EPA on February 24, 1992. MRID #: 422155-01.


5. REVIEWED BY:

Dana Spatz
Chemist, CRS #2
EFGWB/EFED/OPP


Date: MAR 16 1993

6. APPROVED BY:

Emil Regelman
Supervisory Chemist, CRS #2
EFGWB/EFED/OPP


Date: 3/23/93

7. CONCLUSIONS:

The release rate data submitted in support of the registration of Sea Hawk Biotin 1334 White (ID #: 44891-I) are acceptable for certification purposes. The certified average release rate of the tested paint is $3.80 \mu\text{g}/\text{cm}^2/\text{day}$. This paint meets the $4.0 \mu\text{g}/\text{cm}^2/\text{day}$ release rate restriction imposed by OAPCA. The 14-day cumulative release rate is $71.0 \mu\text{g}/\text{cm}^2$.

8. RECOMMENDATIONS:

New Nautical Coatings, Inc. has fulfilled the release rate study requirements for the paint cited above. The paint is certified by EFGWB to have an average release rate below the $4.0 \mu\text{g}/\text{cm}^2/\text{day}$ restriction imposed by OAPCA.

9. BACKGROUND:

The release rate data reviewed in this submission were generated using the "Interim Draft of the ASTM Standard Test Method for Organotin Release Rates of Antifouling Coating Systems in Sea Water." The study was initiated on May 14, 1991 and completed on June 28, 1991.

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES:

Materials and Methods:

Polycarbonate cylinders were fabricated and prepared for coating. Seams were sealed with a bead of polycarbonate/methylene chloride cement, as were the bottoms. With a rotating fixture, individual cylinders were coated using a foam applicator to reach a minimum thickness of 0.004". The leach rate test was started 7 days after painting.

The measuring beakers were calibrated with a mark at 1500 ml of sea water. Sea water was made as per ASTM D-1141, Section 6 and stored in a 100 liter tank that was continually pumped through an activated carbon filter at 5 liters/minute. Temperature was maintained at 25°C ±1°C. Tin content, pH, and salinity were measured at 3-7 day intervals.

Stirring time was 60 minutes for each leach rate determination period. All paint cylinders were rotated at 60 ± 5 rpm for the 1 hour immersion time. When the elapsed time was reached, a 25 ml sample of sea water was pipetted from each container and transferred to a HCl cleaned and rinsed, 60 ml glass bottle containing enough dilute HCl to maintain pH <4 and sealed with a polyolefin lined cap. Bottles were placed in a refrigerator until extracted and analyzed (maximum of 10 days). Acceptable storage stability data were previously submitted.

The paint cylinders were then placed in a holding tank of synthetic sea water until the next sampling point. Sampling containers were emptied, washed thoroughly with tap water, rinsed with DI water and dried before reuse.

Each holding tank was checked every 3 to 7 days for pH and salinity via specific gravity. Tin concentrations were determined by AA on a weekly basis. Each sea water tank volume was pumped through its own activated carbon filter cartridge and returned to the bottom of the opposite tank end. Carbon cartridges were changed when tin values reached approximately 20 ppb.

Quality Control Results:

An EPA Standard Test Paint was run during the release rate experiment. The average release rate for the STP was 3.75 $\mu\text{g}/\text{cm}^2/\text{day}$.

Spike recoveries (20, 30, and 50 $\mu\text{g Sn/L}$) ranged from 85.0% to 113.0%, with an overall average value of 103.9%.

11. COMPLETION OF ONE-LINER:

Not applicable.

12. CBI APPENDIX:

Not applicable.

TRIBUTYL TIN METHACRYLATE 08312 AND BIONET 083112

Page _____ is not included in this copy.

Pages 5 through 11 are not included in this copy.

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