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ENVIRONMENTAL FATE AND GROUND WATER BRANCH

Review Action

To: Marshall Swindell, PM #31
Registration Division (7505C)

From: Mah T. Shamim, Ph.D., Acting Section Chief
Chemistry Review Section 2
Environmental Fate & Ground Water Branch/EFED (7507C)

MAY 17 1994

Thru: Henry Jacoby, Chief
Environmental Fate & Ground Water Branch/EFED (7507C)

M. Shamim
Henry Jacoby 5/17/94

Attached, please find the EFGWB review of...

Common Name:	TBT	Trade name:	Amercoat 3224 (black)
Company Name:	Ameron, Inc.		
ID #:	008120-00054		
Purpose:	Review release rate study.		

Type Product:	Action Code:	Review Time:
antifoulant	325	2 days

STATUS OF STUDIES IN THIS PACKAGE:

**STATUS OF DATA REQUIREMENTS
ADDRESSED IN THIS PACKAGE:**

Guideline #	MRID	Status ¹
release rate	42980001	A

Guideline #	Status ²
release rate	S

¹ Study Status Codes:

² Data Requirement Status Codes:

A=Acceptable U=Upgradeable C=Ancillary I=Invalid.

S=Satisfied P=Partially satisfied N=Not satisfied R=Reserved W=Waived.

1/2

1. CHEMICAL:

chemical name: tributyltin
common name: TBT

2. TEST MATERIAL:

Amercoat 3224 Aerosol (black)

3. STUDY/ACTION TYPE:

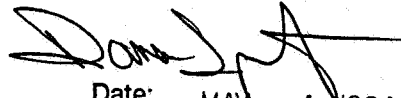
Review release rate data submitted in support of registration.

4. STUDY IDENTIFICATION:

Anthony, Charles. "Leach Rate Determination of Antifoulant Paints Containing Tributyltin."
Performed by Case Consulting Laboratories for Ameron, Inc. Study completed on October 12,
1993. Received by EPA on October 26, 1993. MRID #: 42980001.

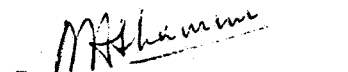
5. REVIEWED BY:

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


Date: MAY 4 1994

6. APPROVED BY:

Mah Shamim, Ph.D.
Acting Section Head, ECRS #2
EFGWB/EFED/OPP


Date: MAY 17 1994

7. CONCLUSIONS:

The release rate data submitted in support of the registration of Amercoat 3224 (black) are acceptable for certification purposes. The certified average release rate of the paint is $3.43 \mu\text{g}/\text{cm}^2/\text{day}$. 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 $73 \mu\text{g}/\text{cm}^2$.

8. RECOMMENDATIONS:

Ameron has fulfilled the release rate study requirements for the paint cited above. Amercoat 3224 (black) 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."

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES:

Material 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 by spray from the aerosol can to reach a minimum thickness of 0.004". The leach rate test was started 8 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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. Tin content, pH, and salinity were measured at 2-4 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 a 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 2 to 4 days for pH, tin concentrations and salinity via specific gravity. 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 $1.90 \mu\text{g}/\text{cm}^2/\text{day}$. Spike recoveries (20, 30, and $50 \mu\text{g Sn/L}$) ranged from 90.4% to 109.7%, with an overall average value of 99.3%.

11. COMPLETION OF ONE-LINER:

Not applicable.

12. CBI APPENDIX:

Not applicable.

Tributyltin Methacrylate

Page is not included in this copy.

Pages 4 through 6 are not included.

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.
