

US EPA ARCHIVE DOCUMENT

Shaughnessy #: 07940

EFB Logout Date: 16 APR 1984

Init.: [Signature]

To: George La Rocca
Product Manager #15
Registration Division (TS-767)

From: L.A. Richardson, Chief
Environmental Chemistry Review Section #3
Exposure Assessment Branch
Hazard Evaluation Division (TS-769c)

Attached please find the EAB review of...

Reg./File No.: 11678-5

Chemical: Endosulfan

Type Product: I

Product Name: _____

Company Name: Makhteshim-Agan Inc.

Submission Purpose: Response to RS (leaching study)

ZBB Code: _____

ACTION CODE: 655

Date In: 2/28/84

EFB # 4211

Date Completed: 4/16/84

TAIS (level II) Days

Deferrals To:

42 1

_____ Ecological Effects Branch

_____ Residue Chemistry Branch

_____ Toxicology Branch

Reviewer: Patricia Ott

[Signature]

Endosulfan Column Soil Leaching Study

Reference: Submitted by Makhteshim-Agan, Inc. EPA Reg. No. 11678-5. Cover memo dated January 9, 1984.

Conclusions:

This study does not meet the registration requirement for leaching, for either parent or degradates, because an insufficient volume of water was used - less than one column volume and 2 1/2 times less than is required (1000 ml). Also, endosulfan has domestic outdoor, green house and aquatic food uses and an adsorption/desorption test on aquatic sediment is required for the aquatic food use (watercress).

Materials and Methods:

Three soils were used: sand, loamy sand and sandy loam which was added to 5 cm i.d. columns to a depth of 28 cm.

Loamy sand (fortified with radiolabeled endosulfan) was used for the aged study and after 30 days' incubation, portions were added to three soil columns, each containing a different soil. The columns were leached with 393 ml of water. Soil samples (5 cm sections) were extracted with acetonitrile/toluene. Both samples and eluate were analyzed by radio-TLC and scintillation counting.

Reported Results:

a-and B-endosulfan, endosulfan sulfate and endosulfan alcohol did not leach beyond 10 cm.

	Loamy Sand (after 30 days' incubation in darkness) <u>% of applied 14-C extracted</u>
a-endosulfan	47.5
B-endosulfan	29.3
endosulfan sulfate	12.0
endosulfan alcohol	<u>4.0</u>
total	92.8

Discussion:

1. There was more leaching in the aged loamy sand and sandy loam than sand.
2. No K_d values were presented in this study, but an adsorption/desorption study was also submitted.
3. It appears that only one soil column for each type of soil was run.

REGISTRATION DIVISION DATA REVIEW RECORD
 Confidential Business Information - Does Not Contain National Security Information (E.O. 12065)

7830
2/28/84

1. CHEMICAL NAME ENDOSULFAN			
2. IDENTIFYING NUMBER 11678-5	3. ACTION CODE 655	4. ACCESSION NUMBER 252185	TO BE COMPLETED BY PM
			5. RECORD NUMBER 110322
			6. REFERENCE NUMBER a
			7. DATE RECEIVED (EPA) 1/12/84
			8. STATUTORY DUE DATE
			9. PRODUCT MANAGER (PM) Lu Rocca
			10. PM TEAM NUMBER 15

14. CHECK IF APPLICABLE <input type="checkbox"/> Public Health/Quarantine <input type="checkbox"/> Minor Use <input type="checkbox"/> Substitute Chemical <input type="checkbox"/> Part of IPM <input type="checkbox"/> Seasonal Concern <input type="checkbox"/> Review Requires Less Than 4 Hours	TO BE COMPLETED BY PCB
	11. DATE SENT TO HED/TSS 2/28/84
	12. PRIORITY NUMBER 20
	13. PROJECTED RETURN DATE 4/28/84

15. INSTRUCTIONS TO REVIEWER A. HED <input type="checkbox"/> Total Assessment - 3(c)(5) <input type="checkbox"/> Incremental Risk Assessment - 3(c)(7) and/or E.L. Johnson memo of May 12, 1977. B. SPRD (Send Copy of Form to SPRD PM) <input type="checkbox"/> Chemical Undergoing Active RPAR Review <input checked="" type="checkbox"/> Chemical Undergoing Active Registration Standards Review C. <input type="checkbox"/> BFSD D. <input type="checkbox"/> TSS/RD E. <input type="checkbox"/> Other	F. INSTRUCTIONS Reg Standard - Leaching
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16. RELATED ACTIONS
 Acc Nos 252227, 252184

17. 3(c)(1)(D) <input type="checkbox"/> Use Any or All Available Information <input type="checkbox"/> Use Only Attached Data <input type="checkbox"/> Use Only the Attached Data for Formulation and Any or All Available Information on the Technical or Manufacturing Chemical.	18. REVIEWS SENT TO <input checked="" type="checkbox"/> TB <input checked="" type="checkbox"/> EEB <input type="checkbox"/> EF <input checked="" type="checkbox"/> PL <input type="checkbox"/> RCB <input checked="" type="checkbox"/> EFB <input type="checkbox"/> CH <input type="checkbox"/> BFSD
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19. To	TYPE OF REVIEW	NUMBER OF ACTIONS							
		Registration	Petition	EUP	SLN	Sec. 18	Inert	MNR. USE	Other
HED	TOXICOLOGY								
	ECOLOGICAL EFFECTS								
	RESIDUE CHEMISTRY								
	ENVIRONMENTAL DATA								
RD/TSS	CHEMISTRY								
	EFFICACY								
	PRECAUTIONARY LABELING								
BFSD	ECONOMIC ANALYSIS								

20. <input type="checkbox"/> Label Submitted with Application Attached	21. <input type="checkbox"/> Confidential Statement of Formula	22. <input type="checkbox"/> Representative Labels Showing Accepted Uses Attached	23. Date Returned to RD (to be completed by HED)	24. Include an Original and 4 (four) Copies of This Completed Form for Each Branch Checked for Review.
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