

FILE COPY

Shaughnessey No. 081901

Date Out EFB: 06 SEP 1984

To: Jacoby
Product Manager 21
Registration Division (TS-767)

From: Samuel Creeger, Chief 
Review Section No. 1
Exposure Assessment Branch
Hazard Evaluation Division (TS-769)

Attached please find the environmental fate review of:

Reg./File No: 50534-8

Chemical: Chlorothalonil

Type Product: Fungicide

Product Name:

Company Name: SDS Biotech

Submission Purpose: Review New York groundwater data

ZBB Code: ?

ACTION CODE: 400

Date in: 5/22/84

EFB # 4379

Date completed: 9/5/84

Tais (level II) Days

62

2.0

Deferrals To:

Ecological Effects Branch

Residue Chemistry Branch

Toxicology Branch

1.0 INTRODUCTION

SDS Biotech has submitted a report entitled "Determination of Chlorothalonil and its Degradation Products in Well Water from Suffolk County, Long Island, New York 1981" for EAB review.

2.0 CHEMICAL IDENTITY AND DIRECTIONS FOR USE

See previous reviews.

No use pattern is associated with this submission.

3.0 DISCUSSION OF DATA

Determination of Chlorothalonil and its Degradation Products in Well Water from Suffolk County, Long Island, New York 1981. R.R. Griffiths. Report Document Number: 561-3AS-82-0065-001 DS-2787. Acc. No. 253315.

Procedure:

Water samples were collected from 24 sites in the Long Island agricultural area of New York. The samples were collected from September 14, 1981 to October 22, 1981, frozen and stored in 1 quart plastic containers at approximately -20°C until January 28, 1982 when analysis began.

Samples were analyzed for chlorothalonil and its degradation products using the standard analytical procedure for chlorothalonil, DS-3701, DS-2787, and DS-19221. Three additional degradation products (DS-46851, DS-47524, and DS-47525) were analyzed for with a slight modification of the standard procedure. Recovery values were determined from deionized water samples which had been amended with each of the compounds of interest. Recovery values are shown in Table 2 on page 1A.

Results:

The results of the analyses are shown in Table 3 on pages 1B and 1C.

Conclusions:

While neither chlorothalonil or its degradation product DS-47524 were found in any of the wells, all of the other degradation products were found in at least one well.

TABLE 2

RECOVERY OF CHLOROTHALONIL (DS-2787),
4-HYDROXY-2,5,6-TRICHLOROISOPHTHALONITRILE (DS-3701),
3-CYANO-2,4,5,6-TETRACHLOROBENZAMIDE (DS-19221),
3-CYANOTRICHLOROXYBENZAMIDE (DS-47525),
3-CYANOTRICHLOROBENZAMIDE (DS-47524)
AND TRICHLORO-3-CARBOXYBENZAMIDE (DS-46851) FROM AMENDED WATER

	Laboratory Sample Reference Number	Amended ppb	Recovery	
			ppb	Percent
<u>DS-2787</u>	81-401-2	5.0	4.3	86
	81-484-6	5.0	4.1	82
	81-484-12	5.0	4.3	86
	81-401-7	2.0	2.0	100
				Mean 89
<u>DS-3701</u>	81-401-2	2.0	1.6	80
	81-401-7	2.0	1.6	80
	81-484-6	2.0	1.6	80
	81-484-12	2.0	2.4	120
				Mean 90
<u>DS-19221</u>	81-401-2	2.0	1.6	80
	81-401-7	2.0	2.4	120
	81-484-6	2.0	2.0	100
	81-484-12	2.0	1.6	80
				Mean 95
<u>DS-46851</u>	81-401-2	2.0	1.4	70
<u>DS-47524</u>	81-401-2	2.0	1.6	80
<u>DS-47525</u>	81-401-2	2.0	1.8	90

TABLE 3

ASSAY OF DS-2787, DS-3701, DS-19221, DS-46851, DS-47524 AND DS-47525
IN WELL WATER FROM SUFFOLK COUNTY, LONG ISLAND, NEW YORK

Lab Sample Ref. No.	Name/Address/Date	Map Coord.	DS-2787 ppb	DS-3701 ppb	DS-19221 ppb	DS-46851 ppb	DS-47524 ppb	DS-47525 ppb
81-401-3	Foster #1/Sagg Road, Sagaponack/ 9-22-81	49P06	ND ¹	ND	ND	ND	ND	ND
81-401-4	Foster #3C/Highland Terrace, Sagaponack/9-22-81	44P15	ND	ND	ND	5.9	ND	ND
81-401-5	Zebrowski #3/Job's Lane, Bridge- hampton/9-14-81*	43Q10	ND	ND	ND	2.0	ND	ND
81-401-6	Dickerson Intercept/Jacobs Lane, Southold/9-23-81	42422	ND	ND	ND	ND	ND	ND
81-401-8	Demarest #2/Main Road, Orient/ 9-23-81	48E20	ND	ND	ND	7.9	ND	2.0
81-401-9	Demarest #3/Main Road, Orient/ 9-23-81	48E20	ND	ND	ND	12.6	ND	2.0
81-401-10	Greenport, W.D., #6-1/Old North Road, Southold/9-23-81*	41E25	ND	ND	ND	2.0	ND	ND
81-401-11	Greenport, W.D., #6-2/Old North Road, Southold/9-23-81	41E25	ND	ND	ND	ND	ND	ND
81-401-12	Wainscott Tennis Court/Private Road, Wainscott/9-14-81*	48P19	ND	ND	ND	ND	ND	ND
81-484-1	L. I. Hort. Sta./South Ave., Riverhead/10-22-81	31C09	ND	A ²	A	A	A	A
81-484-2	Stella, S./Montauk Hwy., Waterville/10-13-81	41P15	ND	ND	ND	ND	ND	ND
81-484-3	Riverhead, W.D./Osbourne Ave., Riverhead/10-22-81	31K21	ND	ND	ND	ND	ND	ND

¹ND = < 2.0 ppb level of quantitation

²A = Sample lost during processing

TABLE 3 (Continued)

ASSAY OF DS-2787, DS-3701, DS-19221, DS-46851, DS-47524 AND DS-47525
IN WELL WATER FROM SUFFOLK COUNTY, LONG ISLAND, NEW YORK

Lab Sample Ref. No.	Name/Address/Date	Map Coord.	DS-2787 ppb	DS-3701 ppb	DS-19221 ppb	DS-46851 ppb	DS-47524 ppb	DS-47525 ppb
81-484-4	Romanowski, R./Main Road, Laurel/10-14-81	36K06	ND ¹	ND	ND	<u>3.9</u>	ND	ND
81-484-5	Talmadge, A./Bridge Lane, Bridgehampton/10-13-81	44P13	ND	ND	ND	ND	ND	ND
81-484-7	Wickham Farm/New Suffolk Lane, Outchoque/10-21-81	39J12	ND	ND	ND	ND	ND	ND
81-484-8	Ruland, W./Main Road, Mattituck/ 10-19-81	37J14	ND	ND	ND	ND	ND	ND
81-484-9	Outchoque Landfill/C. R. 48, Outchoque/10-8-81	38H10	ND	ND	ND	ND	ND	ND
81-484-10	Hallock, S./Wells Road, Peconic/ 10-20-81	41H15	ND	<u>3.6</u>	ND	ND	ND	ND
81-484-11	Van Der Creek, P./Peconic Bay Blvd./ Janesport/10-13-81	35L14	ND	ND	ND	ND	ND	ND
81-484-13	Greenport, W. D. #7/Akerly Pond, Southold/9-30-81**	41G12	ND	ND	ND	ND	ND	ND
81-484-14	Summers, G./Bayer Road, Mattituck 10-8-81	37J07	ND	ND	ND	ND	ND	ND
81-484-15	Pluschau, R./Narrow River Rd., Orient/10-8-81	48E16	ND	ND	<u>2.8</u>	<u>8.5</u>	ND	<u>5.0</u>
81-484-16	Sydowski, S./Sound Ave./Janesport/ 10-19-81	36J15	ND	ND	ND	ND	ND	ND
81-484-17	O'Boyle-Mullaney/Main Bayview Road, Southold/10-8-81	42H22	ND	ND	ND	ND	ND	ND

* Date on the sample bottle differs from the date shown on documentation sheet. Date reported was taken from bottle.

** Documentation identified this sample as "Greenport W.D. #3," Information on bottle reported here.

ND = < 2.0 ppb level of quantitation

4.0 CONCLUSION/RECOMMENDATION

To adequately assess the leaching potential of chlorothalonil and its degradates to ground water from this study, we need information on the application procedure and timing, the rate of application, and rainfall and irrigation data. Also, the rotational crop study indicates that residues of chlorothalonil can persist for up to a year after the last application (EAB review of 4/26/84) and the leaching study for chlorothalonil was found to be inadequate (EAB review of 5/17/84). In the absence of leaching data and in view of the persistence of chlorothalonil, this study alone could not be used to evaluate the potential of chlorothalonil and its degradation products to leach to groundwater.



Norma Kay Whetzel
September 5, 1984
Review Section No. 1
Exposure Assessment Branch
Hazard Evaluation Division