UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 8 1991

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: A. Review of Responses to Triadimefon (Chemical 109901, Case #2700) Phase 4 Package

(EFGWB #91-0289/DP Barcode D156618;
EFGWB #91-0214/DP Barcode D158104;
EFGWB #91-0215/DP Barcode D158257)

B. Disposition of Newly Submitted Studies (EFGWB #91-0289/Case #2700/DP Barcode D159602)

TO: Amy Rispin, Chief
Science Analysis and Coordination Staff
Environmental Fate and Effects Division (H7507C)

FROM: Herbert L. Manning, Ph.D.
Section 3, EFGWB/EFED (H7507C)

THRU: Hank Jacoby, Chief
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)

THRU: Akiva Abramovitch, Ph.D., Chief, Section 3
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)

A. RESPONSES TO PHASE 4 PACKAGE:

Three Data Packages (identifying numbers are shown above) for the List B chemical Triadimefon address three studies cited in the initial Phase 4 package (containing the Phase 3 Summary, LUIS report, and Data Table) completed 6 Nov 1990. The studies and their disposition as per this review are as follows:

- Leaching-Adsorption/Desorption (163-1): The study was reviewed and judged to provide only supplemental information at this time. The study may satisfy the data requirement if sterilization with sodium azide can be justified (no change in soil adsorption-desorption).

- Accumulation in Fish (165-4), MRID #41619901: The study was not reviewed at this time. Since the study was just recently submitted, it will be reviewed when Phase 5 is implemented. It is

listed with other studies recently received on p. 3 of this memo.

• Photodegradation in Air (161-4): A waiver of the study was requested, and the EFGWB agrees, based upon the low vapor pressure (1.5×10^{-7} mm Hg at 20 C) and the low mammalian toxicities (acute inhalation, dermal, and oral are all in Tox Category 3).

The DER (Data Evaluation Record) of the one study reviewed (163-1) and the updated Data Table are attached.

In the updated Data Table (status of data requirements), the following changes were made:

1. Inclusion of the EFGWB responses to reviews/correspondence as cited for the three studies shown above.

2. Lab and Field Volatility studies are not now required (previously reserved), due to new information that indicates the acute oral, dermal, and inhalation toxicities are in Tox Category 3 and the low vapor pressure (1.5×10^{-7} mm Hg at 20 C).

3. Spray drift data are no longer required because of the new toxicity information (above in item 2) and the lack of animal/plant toxicity concerns.

The One-Liner for triadimefon was updated and is attached.

B. NEWLY SUBMITTED STUDIES:

The studies listed below will not be reviewed at this time, but will be reviewed as part of Phase 5 of FIFRA 1988.

MRID #	Study No.	
41686101	1	"The Anaerobic Soil Metabolism of [Triazole-3,5-^{14}C] Triadimefon," EPA Guideline 162-2, Mobay Report No. 99769, W.M. Leimkuehler and C.A. Lenz, 33 pgs.
41686102	2	"The Aerobic Metabolism of [Triazole-3,5-^{14}C] Triadimenfon," EPA Guideline 162-1, Mobay Report No. 99773, W.M. Leimkuehler, C.A. Lenz, T.L. Stevenson and S.K. Valadez, 42 pgs.
41686103	3	"Subsurface Soil Investigation Report, Mobay Corporation, Chualar River Road Monterey County, California," EPA Guideline 164-1. Mobay Report No. 100061, Russell Carey, 44 pgs
41686104	4	"Subsurface Soil Investigation Report, Mobay Corporation, American and Fig Avenues, Fresno County, California," EPA Guideline 164-1, Mobay Report No. 100062, Russell Carey, 72 pgs.

41717501	5	"Dissipation of Triadimenol in California Soils", EPA guideline 164-1, Mobay Report No. 100151, T.J. Grace and K.S. Cain, 2647 pgs.
41619901	6	"Triadimefon - Bioconcentration in Fish," EPA Guideline 165-4, Mobay Report No. 100237, Dr. R. Grau, 55 pgs.

PHASE IV ENVIRONMENTAL FATE SUMMARY TABLE FOR TRIADIMEFON

Chemical Code: 109901
Pesticide Type: Fungicide

Reviewer: H. Manning
Date:1/5/91 (updated)

Uses: (LUIS 10/24/90): Terrestrial Food Crop, Terrestrial Non-Food Crop, Terrestrial Food + Feed Crop, Terrestrial Non-Food + Outdoor, Greenhouse Non-Food Crop, Outdoor Residential

	Submitted Studies/ Addendums	DER/Addendum Review/Summary Identification	DER/Addendum Review/Summary Review Conclusions	Additional Data/Info Required?
DEGRADATION-LAB:				
161-1. Hydrolysis	None			SWBSubmitted
PHOTODEGRADATION:				
161-2. In Water	None			SWBSubmitted
161-3. On Soil	None			SWBSubmitted
161-4. In Air	None			Waived[1]
METABOLISM-LAB:				
162-1. Aerobic Soil	41686102			SSubmitted[2]
162-2. Anaerobic Soil	41686101			SSubmitted[2]
162-3. Anaerob. Aquat	None			SWBSubmitted
162-4. Aerobic Aquat	None			NA[3]
MOBILITY STUDIES:				
163-1 Leaching and Adsorp/Desorp	41616008	DER(91-0214/this Review)	DNS/Salv/Supp	Yes[4]
163-2 Volatil Lab	None			No[5]

PHASE IV ENVIRONMENTAL FATE SUMMARY TABLE (continued)

	Submitted Studies/ Addendums	DER/Addendum Review/Summary Identification	DER/Addendum Review/Summary Review Conclusions	Additional Data/Info Required?
163-3 Volatil-Field	None			No
DISSIPATION FIELD:				
164-1. Terrestr.(Soil)	41717501,41686103,-04			SSubmitted[2]
164-2. Aquat.(Sediment)	None			NA[3]
164-3. Forestry	None			NA[3]
164-4. Combin./Tank Mix	None			Yes
164-5. Long Term Terr.	None			Reserved[6]
164-5. Long Term Aqua.	None			NA[3]
ACCUMULATION STUDIES:				
165-1. Conf. Rot. Crops	None			SWBSubmitted
165-2. Field Rot. Crops				Reserved[7]
165-3. Irrigated Crops	None			NA[3]
165-4. Fish (Lab)	41619901			SWBReviewed[8]
165-5. Aqua. Non-target Organ.(Field)	None			Reserved[9]

5

PHASE IV ENVIRONMENTAL FATE SUMMARY TABLE (continued)

	Submitted Studies/ Addendums	DER/Addendum Review/Summary Identification	DER/Addendum Review/Summary Review Conclusions	Additional Data/Info Required?
SPRAY DRIFT:				
201-1. Droplet Spect.	None			No[10]
202-1. Field Spray Drift Evaluation	None			No[10]
GROUNDWATER MONITORING:				
166-1. Small Prospect	None			No[11]
166-2. Small Retrosp.	None			No[11]
166-3. Large Retrop.	None			No[12]
SURFACE WATER:				
167-1. Field Runoff	None			No[13]
167-2. Surface Water Monitoring	None			No[14]

FOOTNOTES:

1. Photodegradation in Air (161-4) data requirement is waived because of low vapor pressure (1.5×10^{-7} mm Hg @ 20 C) and the low mammalian toxicity of the technical product (rat inhalation LC_{50} >0.44 mg/L/hr and rat oral (LD_{50} >363 mg/kg), both in Toxicity Category 3.

2. The study was just recently submitted. It will be reviewed when Phase 5 is implemented.

3. Data are not applicable to the terrestrial, greenhouse, and residential use pattern.

FOOTNOTES: (continued)

4. The study is unacceptable due to soil sterilization by sodium azide; it may be made acceptable if it can be demonstrated that sodium azide did not change the adsorption/desorption of the soil.

5. Lab volatility data requirement (163-2) is not required because of low vapor pressure (1.5 x 10^{-7} mm Hg @ 20 C) and the low mammalian toxicity of the technical product (rat inhalation LC_{50} >0.44 mg/L/hr; Tox Category 3) and rat oral (LD_{50} >363 mg/kg; Tox Category 3).

6. Long Term Terrestrial Dissipation data (164-5) are reserved pending the results of the Terrestrial (Soil) Dissipation (164-1).

7. Field Rotational Crop data (165-2) are reserved pending the results of the Confined Rotational Crop study (165-1).

8. The study will be reviewed as part of Phase 5 of FIFRA 1988.

9. Aquatic Non-Target Organism data (165-5) are reserved pending the results of the Accumulation in Fish study (165-4).

10. Spray Drift data (201-1, 202-1) are not required because acute oral, dermal, and acute inhalation toxicities are in Toxicity Category 3, and there are no animal/plant toxicity concerns.

11. Reserved pending preliminary assessment of potential for leaching to ground water (based upon the results of various laboratory and terrestrial field dissipation studies).

12. Reserved pending review of the results of small scale retrospective ground water study (if applicable).

13. Reserved pending a preliminary assessments of the potential for runoff to surface water (based upon the results of various laboratory and field dissipation studies).

14. Reserved pending a review of the results of the field runoff study (if applicable).

Environmental Fate & Ground Water Branch
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY
TRIADIMEFON
Last Update on December 18, 1990
[V] = Validated Study [S] = Supplemental Study

Common Name:TRIADIMEFON
Smiles Code:
PC Code # :109901 CAS #:43121-43-3 Caswell #:

Chem. Name : 1-(4-CHLOROPHENOXY)-3,3-DIMETHYL-1-(1H-1,2,4-TRIAZOL-1-YL)-2-BUTANONE
Action Type: FUNGICIDE (SYSTEMIC)

Trade Names:BAYLETON; AMIRAL
(Formul'tn):WP; EC; SUSP. CONCENTRATE; PASTE; DRY FLOWABLE
Physical State:

Use :TERRESTRIAL FOOD, NON-FOOD, FOOD+FEED, NON-FOOD+OUTDOOR,
Patterns :GREENHOUSE NON-FOOD, OUTDOOR RESIDENTIAL.
(% Usage) :
:

Empirical Form: $C_{14}H_{14}ClN_3O_2$
Molecular Wgt.: 291.73 Vapor Pressure: $1.5 \times E_{10}^{-7}$ Torr
Melting Point : °C Boiling Point: °C
Log Kow : 3.18 pKa: @ °C
Henry's : 1.11E -9 Atm. M3/Mol (Measured)

Solubility in ...				Comments
Water	64.00E	ppm	@20.0 °C	
Acetone	E	ppm	@ °C	
Acetonitrile	E	ppm	@ °C	
Benzene	E	ppm	@ °C	
Chloroform	E	ppm	@ °C	
Ethanol	E	ppm	@ °C	
Methanol	E	ppm	@ °C	
Toluene	E	ppm	@ °C	
Xylene	E	ppm	@ °C	
	E	ppm	@ °C	
	E	ppm	@ °C	

Hydrolysis (161-1)
[ ] pH 5.0:
[ ] pH 7.0:
[S] pH 9.0:95% REMAINS AFTER 28 WKS
[S] pH 3.0:97% " " " "
[S] pH 6.0:95% " " " "
[ ] pH :

Environmental Fate & Ground Water Branch
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY
TRIADIMEFON
Last Update on December 18, 1990
[V] = Validated Study [S] = Supplemental Study

Photolysis (161-2, -3, -4)
[ ] Air :
[V] Soil :STABLE
[ ] Water:10-12 HOURS
[ ] :
[ ] :
[ ] :

Aerobic Soil Metabolism (162-1)

	SOIL	%s, s, c	%OC	T1/2
[S]	SiCl	0 66 34	2.4	6 DA
[S]	SL	74 16 10	17.1	18 "

[ ]
[ ]
[ ]
[ ]

Anaerobic Soil Metabolism (162-2)
[S] SiCl 15 DAYS (STERILE CON-
[S] DITIONS INHIBIT BREAKDOWN)
[ ]
[ ]
[ ]
[ ]
[ ]

Anaerobic Aquatic Metabolism (162-3)
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]

Aerobic Aquatic Metabolism (162-4)
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]

Environmental Fate & Ground Water Branch
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY
TRIADIMEFON
Last Update on December 18, 1990
[V] = Validated Study [S] = Supplemental Study

Soil Partition Coefficient (Kd) (163-1)
[S] 1.85 IN SANDY LOAM
[S] 2.4 IN SAND
[S] 2.6 IN CLAY LOAM
[S] 6.9 IN SILT LOAM
[ ]
[ ]

Soil Rf Factors (163-1)

	%s, s, c	%OM	Rf
[ ]	91 1 1	0.8	0.27
[ ]	74 14 13	2.8	0.16
[ ]	56 21 23	0.6	0.20
[ ]	18 57 25	5.1	0.26
[ ]	0 41 59	0.5	0.20

Laboratory Volatility (163-2)
[ ]
[ ]

Field Volatility (163-3)
[ ]
[ ]

Terrestrial Field Dissipation (164-1)

	SOIL	% s, s, c	%OM		0-6"	6-12"
[S]	FLA.SAND	88 9 3	7.6	TRIAD.	5.5 MOS.	8.7 MOS
[S]				KWG	6.0 "	6.5 "
[S]	CA fSL	55 35 10	0.5	TRIAD	4.5 "	17 "
[S]				KWG	24 "	
[S]	OR LOAM	41 45 14	4.5	TRIAD	8.0 "	23 "

[ ]
[ ]
[ ]
[ ]

Aquatic **Dissipation** (164-2)
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]

Forestry Dissipation (164-3)
[ ]
[ ]

Environmental Fate & Ground Water Branch
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY
TRIADIMEFON
Last Update on December 18, 1990
[V] = Validated Study [S] = Supplemental Study

Long-Term Soil Dissipation (164-5)
[ ]
[ ]

Accumulation in Rotational Crops, Confined (165-1)
[ ]
[ ]

Accumulation in Rotational Crops, Field (165-2)
[ ] 1 YR ROTATION FOR SMALL GRAINS, BLACK-EYED PEAS.
[ ] 1 MONTH ROTATION FOR RADISHES.

Accumulation in Irrigated Crops (165-3)
[ ]
[ ]

Bioaccumulation in Fish (165-4)
[ ]
[ ]

Bioaccumulation in Non-Target Organisms (165-5)
[V] CLOVER PLANTS STUNTED @ 50 PPM; NITROGEN FIXATION
[ ] BY CLOVER APPARENT AT 10 PPM.

Ground Water Monitoring, Prospective (166-1)
[ ]
[ ]
[ ]
[ ]

Ground Water Monitoring, Small Scale Retrospective (166-2)
[ ]
[ ]
[ ]
[ ]

Ground Water Monitoring, Large Scale Retrospective (166-3)
[ ]
[ ]
[ ]
[ ]

Ground Water Monitoring, Miscellaneous Data (158.75)
[ ]
[ ]
[ ]

Field Runoff (167-1)
[ ]
[ ]
[ ]
[ ]

Surface Water Monitoring (167-2)
[ ]
[ ]
[ ]
[ ]

Spray Drift, Droplet Spectrum (201-1)
[ ]
[ ]
[ ]
[ ]

Spray Drift, Field Evaluation (202-1)
[ ]
[ ]
[ ]
[ ]

Degradation Products
KWG 0519 (Baytan) has T1/2 in soil of 9-12 months
Triazole
Hydroxy triazole

Environmental Fate & Ground Water Branch
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY
TRIADIMEFON
Last Update on December 18, 1990
[V] = Validated Study [S] = Supplemental Study

Comments
Aged residues are moderately mobile and have the potential to leach into ground water.
Soil Koc = 7,100,000 (estimate).
Kd of parent: 1.85 to 6.93

References:
Writer - : H. Manning, 12/18/90

DP BARCODE: D156618 REREG CASE # 2700

CASE: 816353 DATA PACKAGE RECORD DATE: 11/28/90
SUBMISSION: S383815 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REREGISTRATION ACTION: 603 PHASE 3 INITIAL SUB
CHEMICAL: 109901 1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-
ID#: 109901-003125
COMPANY: 003125 MOBAY CORPORATION
PRODUCT MANAGER: 50 JAY ELLENBERGER 703-308-8085 ROOM: CST 4J1
PM TEAM REVIEWER: FRANKLIN RUBIS 703-308-8184 ROOM: CST 4J6
RECEIVED DATE: 10/09/90 DUE OUT DATE: / /

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 156618 EXPEDITE: N DATE SENT: 10/09/90 DATE RET.: / /
DP TYPE: 101 Phase IV Review
ADMIN DUE DATE: 10/30/90 CSF: N LABEL: N

ASSIGNED TO	DATE IN	ASSIGNED TO	DATE IN
DIV : EFED	10/12/90	REVR :	/ /
BRAN: EFGB	12/03/90	CONTR:	/ /
SECT:			

* * * DATA PACKAGE REVIEW INSTRUCTIONS * * *

PAHSE III, REFORMATS, SUMMARIES, 6A2, DATA.

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
156616	EEB	10/09/90	10/30/90	Y	N	N
156620	DEB	10/09/90	10/30/90	Y	N	N
156621	NDEB	10/09/90	10/30/90	Y	N	N
156622	TB-HFAS	10/09/90	10/30/90	Y	N	N

LISTB

Herb

Triadimefon

91-~~0~~289 (Dup)

12/31

DP BARCODE: D158104 REREG CASE # 270(

CASE: 816353 DATA PACKAGE RECORD DATE: 11/14/9(
SUBMISSION: S385672 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * * TRIADIMEFON

CASE TYPE: REREGISTRATION ACTION: 660 GENERIC DATA REREGIS
CHEMICAL: 109901 1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-
ID#: 109901-003125
COMPANY: 003125 MOBAY CORPORATION
PRODUCT MANAGER: 50 JAY ELLENBERGER 703-308-8085 ROOM: CST 4J1
PM TEAM REVIEWER: FRANKLIN RUBIS 703-308-8184 ROOM: CST 4J6
RECEIVED DATE: 08/31/90 DUE OUT DATE: 12/29/90

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 158104 EXPEDITE: N DATE SENT: 11/14/90 DATE RET.: / /
DP TYPE: 999 Miscellaneous Data Package
ADMIN DUE DATE: 02/12/91 CSF: N LABEL: N

ASSIGNED TO	DATE IN	ASSIGNED TO	DATE IN
DIV : EFED	12/03/90	REVR :	/ /
BRAN: EFGB	/ /	CONTR:	/ /
SECT:	/ /		

* * * DATA PACKAGE REVIEW INSTRUCTIONS * * *

GUIDELINES INCLUDED 163-1 AND 63-1 TO 63-21. PRODUCT CHEM INCLUDED.

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
158103	EEB	11/14/90	02/12/91	Y	N	N
158105	DEB	11/14/90	02/12/91	Y	N	N
158106	TB-HFAS	11/14/90	02/12/91	Y	N	N

LIST B
Herb
91-0214
2/13

15

DP BARCODE: D158257 REREG CASE # 2700

CASE: 816353 DATA PACKAGE RECORD DATE: 11/15/90
SUBMISSION: S385873 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

TRIADIMEFON

CASE TYPE: REREGISTRATION ACTION: 660 GENERIC DATA REREGIS
CHEMICAL: 109901 1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-
ID#: 109901-003125
COMPANY: 003125 MOBAY CORPORATION
PRODUCT MANAGER: 50 JAY ELLENBERGER 703-308-8085 ROOM: CST 4J1
PM TEAM REVIEWER: FRANKLIN RUBIS 703-308-8184 ROOM: CST 4J6
RECEIVED DATE: 09/06/90 DUE OUT DATE: 01/04/91

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 158257 EXPEDITE: N DATE SENT: 11/15/90 DATE RET.: / /
DP TYPE: 999 Miscellaneous Data Package
ADMIN DUE DATE: 02/13/91 CSF: N LABEL: N

ASSIGNED TO	DATE IN	ASSIGNED TO	DATE IN
DIV : EFED	12/03/90	REVR :	/ /
BRAN: EFGB	/ /	CONTR:	/ /
SECT:	/ /		

* * * DATA PACKAGE REVIEW INSTRUCTIONS * * *

For the attached reregistration case, please identify all applicable data requirements and note those for which adaquate data have not been submitted to the Agency.

Guideline Number 165-4, please review. (Fish Accumulation)

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

LIST B
Herb

91-0215

2/13

Phase 3 Correspondence for Column 14
Case Number 2700
Chemical Number 109901
Chemical Name 1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H -1,2,4-triazol-1-yl)-2-butanone

The following are the specific Guideline Reference Numbers for which we provide the noted correspondence:

63-10 Dissociation constant

EPA stated in their Response to Phase 2 Submission that the registrant must provide documentation that the product does not dissociate. This was discussed with Bill Hazel of EPA by phone on 4/26/90. Mr. Hazel requested that the requested documentation be placed in the summary.

63-12 pH

EPA stated in their Response to Phase 2 Submission that the registrant must provide documentation that the technical is not dispersible in water in order to waive this requirement. This was discussed with Bill Hazel of EPA by phone on 4/26/90. Mr. Hazel requested that the requested documentation be placed in the summary.

72-3(a-c) Estuarine/marine organisms

Although the turf use potentially triggers the need to conduct marine toxicity tests, the low toxicity of the technical material to freshwater organisms should negate the need for such studies. The freshwater toxicity data indicates that BAYLETON has low to moderate toxicity to fish and invertebrates. The 96 hour LC50's for bluegill and trout are 6.9 and 10.0 ppm, respectively. The 48 hour LC50 for Daphnia is 1.8 ppm. Toxicity tests with BAYLETON 50% Wettable Powder formulation provide similar values. There is no reason to expect that marine organisms will show greater sensitivity. BAYLETON is applied to turf with ground equipment such that aerial drift should not be a problem. Relative to runoff, if one assumes the maximum application rate of 5.5 lb AI/A and that 5.0% runoff will occur, the maximum concentration in a 6 ft deep 1 acre pond should be 168 ppb. This is greater than 10 fold less than the lowest LC50 value. Given this, and assuming similar sensitivity of marine organisms, we do not feel that generating acute toxicity data for marine organisms is necessary and request a waiver for this requirement.

83-3(a) Teratology - rat

Additional information not previously submitted to EPA is contained in Supplemental Information in Support of Reregistration as Mobay Report No. 49838-1.

133-3 Dermal passive dosimetry exposure

See 132-1(a)

133-4 Inhalation passive dosimetry exposure

See 132-1(a)

161-4 Photodegradation in air

In EPA's Response to Phase 2 Submission, it was stated that this remained a data gap based on information considered.

In the Phase 2 Guide to Data Requirements, it states that this is a conditional requirement and applies if one of the following is met:

(1) The vapor pressure of the technical is $>10^{-4}$ torr.

(2) The vapor pressure of the technical is $>10^{-6}$ torr and the technical is acutely toxic or has a history of incidences is known.

Based on the low mammalian toxicity of the technical (rat inhalation LC_{50} >0.44 mg/l/hr; rat oral LD_{50} >363 mg/kg) and the low vapor pressure of the technical (1.5×10^{-7} mm Hg at 20°C or 4.5×10^{-7} mm Hg at 25°C), we believe that this requirement should not apply to 1-(4-Chlorophenoxy) -3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanone.

201-1 and 202-1 Droplet size spectrum and drift field evaluation

"Data to satisfy Sections 201-1 and 202-1 of Part 158 have been judged to be required to support registration in connection with the List B reregistration process. Mobay will meet these data requirements by reliance on a generic spray drift data base to be generated by the Spray Drift Task Force announced in the Agency's PR Notice 90-3 dated April 6, 1990. Mobay Corporation is a full member and active participant in the Spray Drift Task Force and as such will have full access to the generic data base to meet registration requirements for its products as applicable. The Spray Drift Task Force is actively planning all of the activities necessary to generate the generic data base for use by registrants in meeting Spray Drift and Droplet Size Spectrum data requirements. Completion of the final report on the generic data base by the Task Force is currently anticipated for March 15, 1995. Accordingly, Mobay requests an extension in the List B Phase 3 deadline for supplying Spray Drift and Droplet Size Spectrum data to June 15, 1995. If after complete planning is finalized and testing is underway, it is determined that the final report for the generic data base to be produced by the Spray Drift Task Force occurs later than March 15, 1995, extension of the deadline for Spray Drift and Droplet Size Spectrum data to a date later than June 15, 1995 may be necessary. Any such necessary request for a deadline extension will be made promptly upon discovery that the currently anticipated report completion deadline will not be met."

DATA EVALUATION RECORD

Study 1

STUDY IDENTIFICATION:

Daly, D. 1987. Soil adsorption/desorption with ^{14}C-Bayleton, 12 Oct 1987, Analytical Bio-Chemistry Labs, ABC Final Report #36354, MRID #41616008.

REVIEWED BY:

Herbert L. Manning, Ph.D.
Microbiologist, EFGWB/EFED

Signature: Herbert L. Manning
Date:

APPROVED BY:

Akiva Abramovitch, Ph.D., Chief
Section 3, EFGWB/EFED

Signature: Akiva Abramovitch
Date:

TYPE OF STUDY: Leaching-Adsorption/Desorption (163-1)

CONCLUSION:

1. The study is unacceptable at this time and provides only supplemental information, because the soil was sterilized prior to running the study and may have changed the adsorption/desorption characteristics of the soil. The study may be made acceptable if it can be demonstrated that sterilizing the soil with sodium azide did not change the adsorption/desorption properties of the soil.

2. The supplemental results of the four-soil, adsorption/desorption study indicate that ^{14}C-Bayleton (triadimefon) was mobile in sandy loam soil (K_{ads}= 1.85, $1/n_{ads}$= 0.82) and marginally mobile in silt loam soil (K_{ads}= 6.93, $1/n_{ads}$= 0.70). For desorption, the values were: K_{des}= 2.81, $1/n_{des}$= 0.87 in sandy loam soil and K_{des}= 12.2, $1/n_{des}$= 0.57 in silt loam soil. Linear regression analysis of the data indicated that adsorption followed the Freundlich equation.

MATERIALS AND METHODS:

^{14}C-Bayleton (labeled in phenyl ring, purity of 99.9%) was tested for adsorption/desorption (by determining the adsorption isotherms and Freundlich constants) in four soils: sand (1.0% OM), sandy loam (1.1% OM), silt loam (2.9% OM), and clay loam (2.2% OM). The soils were sieved (2 mm mesh screen), air-dried,

and characterized (Table I). Because TLC analysis of the equilibrium adsorption supernatant (after 48 hours) showed degradation of triadimefon, the soils were sterilized by mixing a 1% addition (w/w) of sodium azide with the soils. Filter-sterilized, deionized water was used to prepare the 0.01 M $CaCl_2$ solution containing the nominal ^{14}C-Bayleton concentrations of 0.0, 0.3, 15.0, 22.5, and 30.0 ppm. Soil suspensions (three grams soil + 10 ml solution) were shaken in darkness at 25 +/-1C for 4 hours, centrifuged, the supernatant decanted, and analyzed by LSC (liquid scintillation counting). For desorption, untreated solutions were added to the adsorption soil and the suspensions shaken for 24 hours at 25+/-1C. The suspensions were centrifuged, the supernatant decanted, and analyzed by LSC. Other analyses were TLC (thin-layer chromatography) and soil combustion.

REPORTED RESULTS:

The data are summarized in Tables I-IV, XVII-XXII, and Figures 1-4. The findings are as follows:

1. The results of the four-soil, adsorption/desorption study indicate that ^{14}C-Bayleton (triadimefon) was mobile in sandy loam soil (K_{ads}= 1.85, $1/n_{ads}$= 0.82), in sand (K_{ads}= 2.42, $1/n_{ads}$= 0.82), and in clay loam (K_{ads}= 2.60, $1/n_{ads}$= 0.89). In silt loam soil, triadimefon was marginally mobile (K_{ads}= 6.93, $1/n_{ads}$= 0.70).

2. For desorption, the values were: K_{des}= 2.81, ($1/n_{des}$= 0.87) in sandy loam soil; K_{des}= 4.69, ($1/n_{des}$= 0.87) in sand; K_{des}= 3.63, ($1/n_{des}$= 0.90) in clay loam; and K_{des}= 12.2, ($1/n_{des}$= 0.57) in silt loam soil.

3. Linear regression analysis of the data indicated that adsorption followed the Freundlich equation.

4. The recovery of the radioactivity in the soils ranged from 98.5 to 106%.

5. The 4-hour equilibrium supernatant did not show degradation of triadimefon, as analyzed by TLC.

6. Based upon LSC analysis of the 48 hour control samples, triadimefon did not adsorb to the glass test containers.

DISCUSSION:

1. Because the soil was sterilized, the study is unacceptable at this time and provides only supplemental information. Sterilization of the soils may have changed the adsorption/desorption characteristics of the soil. The study may be made acceptable if it can be demonstrated that sterilizing the soil with sodium azide did not change the adsorption/desorption properties of the soil.

RIN 5712-93

PC 109901 TRIADIMEFON REVIEW

Page____ is not included in this copy.

Pages 21 through 34 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.

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.
