10-28-91

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

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

EFGWB # 91-0632 & 91-0780
Chemical Code # 012301
DP Barcode # D164879 & D166676
Case # 41
LUIS Report 8/20/91 (For bromacil & its salt)

MEMORANDUM:

SUBJECT: Review of Re-registration Package for 5-Bromo-3-*sec*-butyl-6-methyluracil (known as Bromacil) and its lithium salt. (Case #41)

TO: Lois Rossi/Mario Fiol
PM Team #70
Special Review and Reregistration Division (H7508C)
Office of Pesticide Programs/EPA

FROM: María Isabel Rodríguez, Chemist María Isabel Rodríguez 10/18/1991.
Environmental Fate and Ground Water Branch/Sec. #2
Environmental Fate and Effects Division (H7507C)
Office of Pesticide Programs/EPA

THROUGH: Emil Regelman, Chief
Section #2
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)
Office of Pesticide Programs/EPA
OCT 28 1991

Henry Jacoby, Chief
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)
Office of Pesticide Programs/EPA

The following analysis, as per your request, contains information on the environmental-fate data-requirements for List "A" chemical 5-Bromo-3-*sec*-butyl-6-methyluracil (known as **bromacil** - Shaughnessy #012301) and its **lithium salt** (Shaughnessy #012302).

Packages were provided to EFGWB on June 10, 1991, July 18, 1991, and August 21, 1991, respectively.

Bromacil, manufactured by Du Pont de Nemours Agricultural Company, is a substituted urea herbicide. It is currently registered for terrestrial food, feed, and non-food crop, and aquatic non-food industrial uses. There are no registered home uses for bromacil. It is most frequently formulated as an 80%

wettable powder/dust and as a 40.8% water-soluble liquid (2 lbs/gallon or 4 lbs./gallon). It is also available as dust, granular, pelleted/tableted, wettable powder, water dispersable granules, emulsifiable concentrate, soluble concentrate/liquid, liquid-ready-to-use, and pressurized liquid. It is used for general weed and brush control in non-crop areas. It is useful against perennial grasses and for selective weed control in pineapple and citrus. Application types include broadcast, band treatment, and soil band treatments. The chemical is usually applied in the ground or with a sprayer. The maximum application rate is 32 lb ai/A in industrial areas (outdoor) and non-agricultural rights-of-way/fencerows/hedgerows.

Bromacil has three salts, diethylamine, lithium, and sodium. Currently, the only active products are bromacil and its lithium salt.

The lithium salt of bromacil is registered for the same use patterns as bromacil. It is available as a soluble concentrate/liquid and as a liquid-ready-to-use. It is applied as broadcast, soil treatment and as prepaving treatments. It can be applied in the ground or with a sprayer. The maximum application rate is 26.4 lb ai/A in industrial areas (outdoor), non-agricultural rights-of-way/fencerows/hedgerows and non-agricultural uncultivated areas.

The SRRD (Mario Fiol), provided several documents which were not in the EFGWB Chemical files, among them:

1. Letter dated October 16, 1990 from Dr. Ian Wellings - Registration Specialist, Du Pont Agricultural Products - to Mr. Phillip T. Hundenmann - Review Manager, SRRD - submitting a proposed revised label for "Hyvar X" Herbicide from which the drainage ditch use had been removed. (The proposed label was included in the package)[1].

2. Letter dated October 11, 1990 from Ian Wellings - Registration and Regulatory Affairs, Du Pont Agricultural Products - to Mr. Robert Taylor - Product Manager #25 - submitting an application for registration of a revised package label for "Hyvar X" Herbicide. (Application and label were not included in the package)

3. Letter dated October 20, 1988 from Ian Wellings - Registration Specialist, Registration and Regulatory Affairs, Du Pont Agricultural Products - to Mr. Robert Taylor - Product Manager #25 - confirming dates for submission of studies.

4. Letter dated July 8, 1986 from Dr. Richard A. Carver - Product Registration Specialist, Du Pont Agricultural Products - to Mr. Robert Taylor - Product Manager #25 - summarizing Du Pont's understanding of the discussion/meeting held on May 28, 1986 concerning bromacil's data-requirements. Information concerning Photolysis

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[1]Since this is not an Agency-approved label, the aquatic uses are still in effect.

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(161-2,3), Soil Column Leaching (163-1), Soil Field Dissipation (164-1), Long-term Soil Field Dissipation (164-5), and Small Scale Retrospective (166-2) studies was discussed.

The List A Inventory Summary Sheet provided by the SRRD cites the following studies/MRID #'s as being received/reviewed by the Agency:

Data Requirements and Guidelines Reference #		MRID #	Date Reviewed
163-1:	Leaching and Adsorp./desorp.	00126340	03/10/84
164-1:	Terrestrial Field Dissipation	00126339	03/07/85
		00126341	03/10/84
		00141638	03/19/84

However, there is no evidence in the EFGWB chemical files that these studies had been previously received/reviewed.

The next pages contain lists and tables summarizing the environmental-fate data-requirements (according to 40 CFR, Part 158.290), their status, MRID #'s of studies, and other pertinent information are presented in the following pages. A copy of the EFGWB One-liner has been attached to this memorandum.

cc: Elizabeth Behl, Acting Section Chief, EPA/OPP/EFED/EFGWB/GTS

PHASE IV ENVIRONMENTAL-FATE SUMMARY TABLES FOR BROMACIL AND ITS LITHIUM SALT:

Reviewer: María Isabel Rodríguez MDR

Date: October 18, 1991

Chemical Code: 012301 (Bromacil)
012302 (Its lithium salt)

Case #: 41

CAS Registry # 314-40-9 (Bromacil)
53404-19-6 (Its lithium salt)

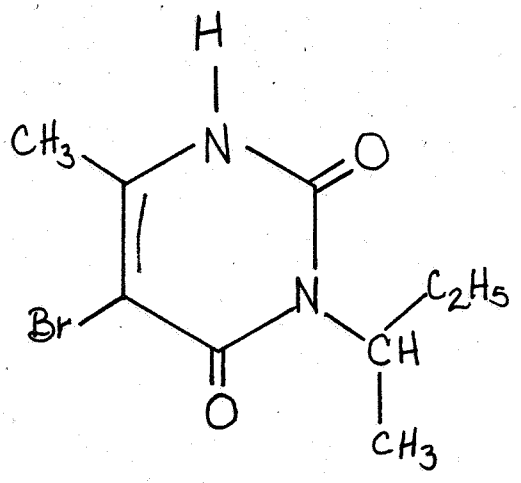
Pesticide Type: Herbicides

Uses (As of 8/20/91 -- LUIS Reports): Terrestrial food, feed, non-food crops, and aquatic industrial.

Molecular Weight: 261.12 g/mol (Bromacil)

Empirical Formula: $C_9H_{13}BrN_2O_2$ (Bromacil)

Structure:



BROMACIL

...Continues...

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BROMACIL

For **bromacil**, the following environmental-fate data-requirements apply to the use patterns being claimed.

A. **Required**; studies must be **submitted** for review:

162-4: Aerobic Aquatic Metabolism
164-2: Aquatic Field Dissipation (sediment)
165-3: Accumulation in Irrigated Crops
165-1: Confined Rotational Crops
165-5: Accum. in Aquatic Non-target Organisms

B. **Required**; studies are **currently in review**:

161-1: Hydrolysis
161-2: Photodegradation in Water
161-3: Photodegradation on Soil
162-1: Aerobic Soil Metabolism
162-3: Anaerobic Aquatic Metabolism
163-1: Leaching and Adsorption/desorption
164-1: Soil Field Dissipation
165-4: Accumulation in Fish

C. **Reserved** pending results of the Leaching and Adsorption/desorption (163-1) and Soil Field Dissipation (164-1) studies:

166-1, 166-2, 166-3: Ground Water Monitoring
167-1, 167-2: Surface Water

D. **Reserved** pending results of ecological and toxicological studies:

201-1, 202-1: Spray Drift

E. **Reserved** pending results of Anaerobic Aquatic Metabolism (162-3) studies:

162-2: Anaerobic Soil Metabolism

F. **Reserved** pending results of Soil Field Dissipation (164-1) studies:

164-5: Long Term Soil Field Dissipation

It should be noted that if ditchbank uses are deleted, then the following data-requirements would not apply any more:

162-3: Anaerobic Aquatic Metabolism
162-4: Aerobic Aquatic Metabolism
164-2: Aquatic Field Dissipation (sediment)
165-3: Accumulation in Irrigated Crops
165-5: Accumulation in Aquatic Non-target Organisms

...Continues...

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Data Requirements and Guidelines Reference #	Use Patterns[1]	Submitted Studies/ Addendums	DER/Addendum Review/Summary Identification	DER/Addendum Review/Summary Review Conclusions	Additional Data Required?
1. DEGRADATION -- LAB:					
161-1: Hydrolysis	1,2,3,6	001256-93[2] 001416-35[3] 409515-05[4,5] 409515-06[4,6]	This review/memo	SIR[7]	SIR
161-2: Photo. in Water	1,2,3,6	05013650	Registration Standard (1982)[8]	Partially	SIR
		Add[9] No #	EAB #3282: 4249 & 50	Not Acceptable	
		00126338[10] 409515-07[4,5] 409515-08[4,6]	This review/memo	SIR	
161-3: Photo. on Soil	1,2	409515-09[4]	This review/memo	SIR	SIR
2. METABOLISM -- LAB:					
162-1: Aerobic Soil	1,2,3	00013299 05013204 05016176	Registration Standard (1982)[8]	Partially	SIR
		No Add	N/A	N/A	
		409515-10[4]	This review/memo	SIR	
162-2: Anaerobic Soil	1,2	05013204 05016176	Registration Standard (1982)[8]	Partially	Reserved[11]
		No Add	N/A	N/A	

...Continues...

Data Requirements and Guidelines Reference #	Use Patterns[1]	Submitted Studies/ Addendums	DER/Addendum Review/Summary Identification	DER/Addendum Review/Summary Review Conclusions	Additional Data Required?
162-3: Anaerobic Aquatic	6	N/A	N/A	N/A	SIR
		Add No #	EAB #3282: 4249 & 50	Not Acceptable	
		409515-11[4]	This review/memo	SIR	
162-4: Aerobic Aquatic	6	N/A	N/A	N/A	Yes
2. MOBILITY:					
163-1: Leaching and adsorp./desorp.	1,2,3,6	05012167 05017170 GS0040005 00020782	Registration Standard (1982)	Partially	SIR
		Add No #	EAB #3282: 4249 & 50	Not Acceptable	
		409515-12[4]	This review/memo	SIR	
3. DISSIPATION -- FIELD:					
164-1: Soil	1,2,3	00013252 00013299 Lit. Ref.	Registration Standard (1982)[8]	Not Acceptable	SIR
		05016506			
		05017207 05017104			
		05013837 05014211 05021869 05015334 05014972 05017359 05015975 05015217			
		Add No #	EAB #3282: 4249 & 50	Not Acceptable	
		416771-01[12]	This review/memo	SIR	

...Continues...

Data Requirements and Guidelines Reference #	Use Patterns[1]	Submitted Studies/ Addendums	DER/Addendum Review/Summary Identification	DER/Addendum Review/Summary Review Conclusions	Additional Data Required?
164-2: Aquatic (sediment)	6	00024374 05020742	Registration Standard (1982)[8]	Not Acceptable	Yes
		No Add	N/A	N/A	
164-5: Soil, Long Term[13]	1,2	N/A	N/A	N/A	Reserved[14]
4. **ACCUMULATION**:					
165-1: Conf. Rotat. Crops	1,2	N/A	N/A	N/A	Yes
165-3: Irrigated Crops	6	N/A	N/A	N/A	Yes
165-4: In Fish	1,2,3,6	409515-13	This review/memo	SIR	SIR
165-5: In Aq. Non-target Org.[15]	6	N/A	N/A	N/A	Yes
5. **GROUND WATER MONITORING**:					
166-1: Small Scale Prospec.	1,2,3	N/A	N/A	N/A	Reserved[16]
166-2: Small Scale Retrospec.	1,2,3	N/A	N/A	N/A	Reserved[16]
166-3: Large Scale Retrospec.	1,2,3	N/A	N/A	N/A	Reserved[16]
6. **SURFACE WATER**:					
167-1: Field Runoff	1,2,3	N/A	N/A	N/A	Reserved[16]
167-2: Surface Water Monitor.	1,2,3,6	N/A	N/A	N/A	Reserved[16]
7. **SPRAY DRIFT**:					
201-1: Droplet Size Spectrum	1,2,3,6	N/A	N/A	N/A	Reserved[17]
202-1: Drift Field Evaluation	1,2,3,6	N/A	N/A	N/A	Reserved[17]

1 Use patterns being supported by re-registration, where:
1 = terrestrial food crop
2 = terrestrial feed crop
3 = terrestrial non-food crop

...Continues...

6 = aquatic non-food industrial
2 Study dates from 1970.
3 Study dates from 1984.
4 Study dates from 1988.
5 Study performed at pH's 5, 7 and 9.
6 Study performed at pH 9.
7 SIR = Study in Review
8 Registration Standard issued on September 30, 1982. The Data Evaluation Record (DER) for this study is included in the document "Task 1: Review and Evaluation of Individual Studies" dated October 16, 1981.
9 Add = Addendum (to the Registration Standard)
-Response to the Registration Standard. EAB Review #3282: 4249 & 50, dated March 25, 1985 and performed by Lionel A. Richardson.
10 Study dates from 1981.
11 Requirement is to be held in reserve pending results of Anaerobic Aquatic Metabolism (162-3) studies.
12 Study dates from 1990.
13 Required if pesticide residues do not dissipate 50% in soil before next application.
14 Requirement is to be held in reserve pending results of Soil Field Dissipation (164-1) studies.
15 Required unless tolerance or action level for fish has been granted.
16 Requirement is to be held in reserve pending results of Leaching and Adsorption/desorption (163-1) and Soil Field Dissipation (164-1) studies.
17 Requirement is to be held in reserve pending results of ecological and toxicological studies.

LITHIUM SALT OF BROMACIL

For the lithium salt of bromacil, the following environmental-fate data-requirements apply to the use patterns being claimed.

A. Required; studies must be submitted for review:

161-1: Hydrolysis
161-2: Photodegradation in Water
161-3: Photodegradation on Soil
162-1: Aerobic Soil Metabolism
162-3: Anaerobic Aquatic Metabolism
162-4: Aerobic Aquatic Metabolism
163-1: Leaching and Adsorption/desorption
164-1: Soil Field Dissipation
164-2: Aquatic Field Dissipation (sediment)
165-1: Accumulation in Confined Rotational Crops
165-3: Accumulation in Irrigated Crops
165-4: Accumulation in Fish
165-5: Accum. in Aquatic Non-target Organisms

B. Reserved pending results of the Leaching and Adsorption/desorption (163-1) and Soil Field Dissipation (164-1) studies:

166-1, 166-2, 166-3: Ground Water Monitoring
167-1, 167-2: Surface Water

C. Reserved pending results of ecological and toxicological studies:

201-1, 202-1: Spray Drift

D. Reserved pending results of Anaerobic Aquatic Metabolism (162-3) studies:

162-2: Anaerobic Soil Metabolism

E. Reserved pending results of Soil Field Dissipation (164-1) studies:

164-5: Long Term Soil Field Dissipation

It should be noted that if ditchbank uses are deleted, then the following data-requirements would not apply any more:

162-3: Anaerobic Aquatic Metabolism
162-4: Aerobic Aquatic Metabolism
164-2: Aquatic Field Dissipation (sediment)
165-3: Accumulation in Irrigated Crops
165-5: Accumulation in Aquatic Non-target Organisms

Data Requirements and Guidelines Reference #	Use Patterns[1]	Submitted Studies/ Addendums	DER/Addendum Review/Summary Identification	DER/Addendum Review/Summary Review Conclusions	Additional Data Required?
1. **DEGRADATION -- LAB:**					
161-1: Hydrolysis	1,2,3,6	N/A	N/A	N/A	Yes
161-2: Photo. in Water	1,2,3,6	N/A	N/A	N/A	Yes
161-3: Photo. on Soil	1,2	N/A	N/A	N/A	Yes
2. **METABOLISM -- LAB:**					
162-1: Aerobic Soil	1,2,3	N/A	N/A	N/A	Yes
162-2: Anaerobic Soil	1,2	N/A	N/A	N/A	Yes[2]
162-3: Anaerobic Aquatic	6	N/A	N/A	N/A	Yes
162-4: Aerobic Aquatic	6	N/A	N/A	N/A	Yes
2. **MOBILITY:**					
163-1: Leaching and adsorp./desorp.	1,2,3,6	N/A	N/A	N/A	Yes
3. **DISSIPATION -- FIELD:**					
164-1: Soil	1,2,3	N/A	N/A	N/A	Yes
164-2: Aquatic (sediment)	6	N/A	N/A	N/A	Yes
164-5: Soil, Long Term	1,2	N/A	N/A	N/A	Reserved[3,4]
4. **ACCUMULATION:**					
165-1: Conf. Rotat. Crops	1,2	N/A	N/A	N/A	Yes
165-3: Irrigated Crops	6	N/A	N/A	N/A	Yes
165-4: In Fish	1,2,3,6	N/A	N/A	N/A	Yes

...Continues...

Data Requirements and Guidelines Reference #	Use Patterns[1]	Submitted Studies/ Addendums	DER/Addendum Review/Summary Identification	DER/Addendum Review/Summary Review Conclusions	Additional Data Required?
165-5: In Aq. Non-target Org.	6	N/A	N/A	N/A	Yes[5]
5. GROUND WATER MONITORING:					
166-1: Small Scale Prospec.	1,2,3	N/A	N/A	N/A	Reserved[6]
166-2: Small Scale Retrospec.	1,2,3	N/A	N/A	N/A	Reserved[6]
166-3: Large Scale Retrospec.	1,2,3	N/A	N/A	N/A	Reserved[6]
6. SURFACE WATER:					
167-1: Field Runoff	1,2,3	N/A	N/A	N/A	Reserved[6]
167-2: Surface Water Monitor.	1,2,3,6	N/A	N/A	N/A	Reserved[6]
7. SPRAY DRIFT:					
201-1: Droplet Size Spectrum	1,2,3,6	N/A	N/A	N/A	Reserved[7]
202-1: Drift Field Evaluation	1,2,3,6	N/A	N/A	N/A	Reserved[7]

1 Use patterns being supported by re-registration, where:
- 1 = terrestrial food crop
- 2 = terrestrial feed crop
- 3 = terrestrial non-food crop
- 6 = aquatic non-food industrial

2 Not required if Anaerobic Aquatic Metabolism (162-3) study is conducted.
3 Required if pesticide residues do not dissipate 50% in soil before next application.
4 Requirement is to be held in reserve pending results of Soil Field Dissipation (164-1) studies.
5 Required unless tolerance or action level for fish has been granted.
6 Requirement is to be held in reserve pending results of Leaching and Adsorption/desorption (163-1) and Soil Field Dissipation (164-1) studies.
7 Requirement is to be held in reserve pending results of ecological and toxicological studies.

ATTACHMENTS

Environmental Fate & Effects Division
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY
BROMACIL
Last Update on July 18, 1991
[V] = Validated Study [S] = Supplemental Study [U] = USDA Data

LOGOUT	Reviewer: MRP	Section Head:	Date:

Common Name:BROMACIL
PC Code # : 12301 CAS #:314-40-9 Caswell #:

Chem. Name :5-Bromo-3-sec-butyl-6-methyluracil

Action Type:Herbicide

Trade Names:BOREA; BROMAX 4G; BROMAX 4L; CYNOGAN; HYVAR X; UROX; Others.
(Formul'tn):SC/L; GRANULAR; WETTABLE POWDER; EMULSIFIABLE CONCENTRATE.
Physical State:

Use :TERRESTRIAL FOOD, FEED, NON-FOOD, AND AQUATIC INDUSTRIAL.
Patterns :
(% Usage) :Citrus, pineapple and non-crop areas including rights-of-way
:Industrial sites, fencerows, drainage ditches; NO HOME USES.

Empirical Form: $C_9H_{13}BrN_2O_2$
Molecular Wgt.: 261.12 Vapor Pressure: 8.00E -4 Torr @ 100°C
Melting Point : °C Boiling Point: °C
Log Kow : 2.02 pKa: 9.10 @ °C
Henry's : E Atm. M3/Mol (Measured) 3.37E -7 (calc'd)

Solubility in ...					Comments
Water	8.15E 2	ppm	@20.0	°C	
Acetone	E	ppm	@	°C	Moderately soluble
Acetonitrile	E	ppm	@	°C	Moderately soluble
Benzene	E	ppm	@	°C	
Chloroform	E	ppm	@	°C	
Ethanol	E	ppm	@	°C	Moderately soluble
Methanol	E	ppm	@	°C	
Toluene	E	ppm	@	°C	
Xylene	E	ppm	@	°C	
Strong aqueous bases	E	ppm	@	°C	Moderately soluble
Hydrocarbons	E	ppm	@	°C	Sparingly soluble

Hydrolysis (161-1)
[ ] pH 5.0:
[ ] pH 7.0:
[ ] pH 9.0:
[ ] pH :
[ ] pH :
[ ] pH :

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Photolysis (161-2, -3, -4)
[V] Water:< 1 HR in WATER + METHYLENE BLUE (pH 9.4)
[ ] :
[S] :12 WEEKS in WATER/RIBOFLAVIN
[ ] :

[V] Soil :UV: 30-65% gone after 20 DAYS
[V] Air :WAIVED

Aerobic Soil Metabolism (162-1)
[S] 2 MONTHS in SiLm in DELAWARE
[S] 0.5-1.0 MONTH in MYAKKA FINE SAND in FLORIDA
[ ]
[S] > 600 DAYS in GREENFIELD SdLm
[S] > 6 MONTHS in LOAM SOIL
[ ]
[ ]

Anaerobic Soil Metabolism (162-2)
[S]
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]

Anaerobic Aquatic Metabolism (162-3)
[S] < 12 WEEKS in SEDIMENT covered with RIVER WATER, pH 6.5
[ ] After 12 WEEKS, 41% of RADIOACTIVITY associated with sediment.
[ ]
[ ]
[ ]
[ ]
[ ]

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

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Soil Partition Coefficient (Kd) (163-1)
[V] Kd (25 oC) for ILLITE CLAY = 2.6
[V] Kd (25 oC) for MONTMORILL = 0.7
[V] Kd (25 oC) for HUMIC ACID = 10.0
[V] Kd (25 oC) for SILICA GEL = 4.8
[ ] At 0 oC, values for HUMIC ACID =125.9 and for SILICA GEL = 10.7
[ ]

Soil Rf Factors (163-1)
[V] 0.69 on SiClLm
[ ] SOIL Koc = 72
[ ]
[ ]
[ ]
[ ]

Laboratory Volatility (163-2)
[ ]
[ ]

Field Volatility (163-3)
[ ]
[ ]

Terrestrial Field Dissipation (164-1)
[V] T1/2 = 2 MONTHS for top 2" of KEYPORT SiLm SOIL in DELAWARE.
[V] T1/2 = 0.5 TO 1 MONTH for top 2" of fine SAND SOIL in FLORIDA.
[V] 23% OF APPLIED RADIOACTIVITY REMAINED in upper 12" of treated
[ ] SiLm SOIL ONE YEAR after treatment with 4 lbs/Acre.
[V] Phytotoxic residues present throughout soil for fields treated
[ ] with bromacil TWICE/YR for 4 CONSECUTIVE YEARS.
[ ]
[ ]
[ ]
[ ]

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

Forestry Dissipation (164-3)
[V] (NOT REQUIRED) Residues detected in max sampling zone 3 MONTHS
[ ] AFTER TRAEATMENT, indicating GW POTENTIAL.

Environmental Fate & Effects Division
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY
BROMACIL
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Long-Term Soil Dissipation (164-5)
[ ]
[ ]

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

Accumulation in Rotational Crops, Field (165-2)
[ ]
[ ]

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

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

Bioaccumulation in Non-Target Organisms (165-5)
[ ]
[ ]

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)
[ ] Bromacil applied at 22 Kg AI/HA to SANDY SOIL LEACHED 5.9 METERS
[ ] FROM THE SURFACE INTO GROUNDWATER. Peak was 1.25 ppm but still
[ ] DETECTABLE 764 DAYS POSTTREATMENT.

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

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

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

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

Degradation Products

3-sec-butyl-5-acetyl-5-hydroxyhydantoin
3-sec-butyl-6-methyl uracil
3-sec-butyl-ketohydantoin
sec-butyl urea

Environmental Fate & Effects Division
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY
BROMACIL
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Comments

->Bromacil at 5 lbs AIA was very mobile in column of SdLm soil, all of it being recovered in leachate of 20" percolated over 2 days. Bromacil and aged bromacil residues were mobile in columns of SiLm and muck but < 2% of applied was detected in the leachate. None of 73 bacteria, and only 4 soil fungi out of 55, degraded bromacil. At 2.4 ppm bromacil inhibited 15 of 17 chlorophyceae algae. Microbial N-cycle activity under field conditions not affected by bromacil at 4 and 8 kg/ha/application, 5 months after the last of 8 applications.
->Bromacil at 5 ppm INHIBITED 23 species of soil fungi by 90-100%.
->Koc = 32 (U)
->Vapor pressure is reported at 100 oC.

References: WSSA 83; EPA REVIEWS; EFGWB Chemical File
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