



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

JUN 1 1993

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: RED Review for Bromine (Case 4015)

FROM: Anthony F. Maciorowski, Chief *A. F. Maciorowski*
Ecological Effects Branch
Environmental Fate and Effects Division (H7507C)

TO: Betsy Grim
Science Analysis and Coordination Staff
Environmental Fate and Effects Division (H7507C)

EEB completed the Phase IV review for bromine (008701) on April 21, 1993. Following the Phase IV review, EEB determined that bromine is a candidate for direct development into a RED, without further EEB review. All uses of this chemical are indoor (food, nonfood, medical, and residential). Bromine is used in insecticides, acaricides, and antimicrobials.

Since all registered uses of bromine are indoor uses, the reduced data set applies: one avian acute oral, one avian dietary, one fish acute, and one aquatic invertebrate acute.

Aquatic ecotoxicity data are available for this chemical. The studies show that bromine chloride, measured as bromine, is highly toxic to freshwater fish and aquatic invertebrates. No avian toxicity data are available for bromine. The registrants have requested waivers for the avian studies; EEB concurs with the waiver requests. Bromine is a highly volatile, corrosive liquid, and standard avian tests would not provide useful toxicity data.

In view of the above, there are no outstanding ecotoxicity data requirements for bromine. Avian requirements are waived; aquatic data will be used for labelling purposes. The status of the data requirements is outlined in the attached data table.

Based on the aquatic toxicity data, the following statement is required on the labels of bromine products:

"This pesticide is toxic to fish and aquatic invertebrates. Do not discharge effluent containing this product into lakes,



2024127



Recycled/Recyclable
Printed with Soy/Canola Ink on paper that
contains at least 50% recycled fiber

streams, ponds, estuaries, oceans, or public water unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA."

Any questions or comments on this memo should be referred to Allen Vaughan at 305-6464.

Date: 04/07/93
 Case No: 4015
 Chemical No: 008701

PHASE IV
 DATA REQUIREMENTS FOR
 ECOLOGICAL EFFECTS BRANCH

Data Requirements	Composition ¹	Use Pattern ²	Does EPA Have Data To Satisfy This Requirement? (Yes, No)	Bibliographic Citation	Must Additional Data Be Submitted under FIFRA3(c)(2)(B)?
6 Basic Studies in Bold					
71-1(a) Acute Avian Oral, Quail/Duck	(TGAI)	L,M,N,O	No		No ³
71-1(b) Acute Avian Oral, Quail/Duck	(TEP)				
71-2(a) Acute Avian Diet, Quail	(TGAI)	L,M,N,O	No		No ³
71-2(b) Acute Avian Diet, Duck	(TGAI)				
71-3 Wild Mammal Toxicity	(TGAI)				
71-4(a) Avian Reproduction Quail	(TGAI)				
71-4(b) Avian Reproduction Duck	(TGAI)				
71-5(a) Simulated Terrestrial Field Study	(TEP)				
71-5(b) Actual Terrestrial Field Study	(TEP)				
72-1(a) Acute Fish Toxicity Bluegill	(TGAI)	L,M,N,O	Yes	40669903	No
72-1(b) Acute Fish Toxicity Bluegill	(TEP)				
72-1(c) Acute Fish Toxicity Rainbow Trout	(TGAI)	L,M,N,O	Yes	40669902	No
72-1(d) Acute Fish Toxicity Rainbow Trout	(TEP)				
72-2(a) Acute Aquatic Invertebrate Toxicity	(TGAI)	L,M,N,O	Yes	40669904	No
72-2(b) Acute Aquatic Invertebrate Toxicity	(TEP)				
72-3(a) Acute Estu/Mari Tox Fish	(TGAI)				
72-3(b) Acute Estu/Mari Tox Mollusk	(TGAI)				
72-3(c) Acute Estu.Mari Tox Shrimp	(TGAI)				

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³ In Bibliographic Citation column indicates study may be upgradeable

Date: 04/07/93
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PHASE IV
 DATA REQUIREMENTS FOR
 ECOLOGICAL EFFECTS BRANCH

Data Requirements	Composition ¹	Use Pattern ²	Does EPA Have Data To Satisfy This Requirement? (Yes, No)	Bibliographic Citation	Must Additional Data Be Submitted under FIFRA3(c)(2)(B)?
72-3(d) Acute Estu/Mari Tox Fish	(TEP)				
72-3(e) Acute Estu/Mari Tox Mollusk	(TEP)				
72-3(f) Acute Estu/Mari Tox Shrimp	(TEP)				
72-4(a) Early Life-Stage Fish	(TGAI)				
72-4(b) Life-Cycle Aquatic Invertebrate	(TGAI)				
72-5 Life-Cycle Fish	(TGAI)				
72-6 Aquatic Org. Accumulation	(TGAI)				
72-7(a) Simulated Aquatic Field Study	(TEP)				
72-7(b) Actual Aquatic Field Study	(TEP)				
122-1(a) Seed Germ./Seedling Emerg.	(TGAI)				
122-1(b) Vegetative Vigor	(TGAI)				
122-2 Aquatic Plant Growth	(TGAI)				
123-1(a) Seed Germ./Seedling Emerg.	(TGAI)				
123-1(b) Vegetative Vigor	(TGAI)				
123-2 Aquatic Plant Growth	(TGAI)				
124-1 Terrestrial Field Study	(TEP)				
124-2 Aquatic Field Study	(TEP)				
141-1 Honey Bee Acute Contact	(TGAI)				
141-2 Honey Bee Residue on Foliage	(TEP)				
141-5 Field Test for Pollinators	(TEP)				

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¹ In Bibliographic Citation column indicates study may be upgradeable

DP Barcode : D191175
 PC Code No : 008701
 EEB Out : 06.01.93

To: Bruce Sidwell
 Product Manager 53
 Special Review and Reregistration Division (H7508W)

From: Anthony F. Maciorowski, Chief
 Ecological Effects Branch/EFED (H7507C)

Attached, please find the EEB review of...

Reg./File # : 008701
 Chemical Name : Bromine
 Type Product : Microbiocide
 Product Name : Bromine Products
 Company Name : Various Registrants
 Purpose : SRRD request for development of RED for Case No. 4015.

Action Code : 604 Date Due : 06/01/93
 Reviewer : A. Vaughan Date In : 05/12/93

EEB Guideline/MRID Summary Table: The review in this package contains an evaluation of the following:

GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT
71-1(A)			72-2(A)			72-7(A)		
71-1(B)			72-2(B)			72-7(B)		
71-2(A)			72-3(A)			122-1(A)		
71-2(B)			72-3(B)			122-1(B)		
71-3			72-3(C)			122-2		
71-4(A)			72-3(D)			123-1(A)		
71-4(B)			72-3(E)			123-1(B)		
71-5(A)			72-3(F)			123-2		
71-5(B)			72-4(A)			124-1		
72-1(A)			72-4(B)			124-2		
72-1(B)			72-5			141-1		
72-1(C)			72-6			141-2		
72-1(D)						141-5		

Y=Acceptable (Study satisfied Guideline)/Concur
 P=Partial (Study partially fulfilled Guideline but additional information is needed)
 S=Supplemental (Study provided useful information but Guideline was not satisfied)
 N=Unacceptable (Study was rejected)/Nonconcur

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→ 8084

DP BARCODE: D191175

REREG CASE # 4015

CASE: 818561
SUBMISSION: S440547

DATA PACKAGE RECORD
BEAN SHEET

DATE: 05/11/93
Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REREGISTRATION ACTION: 604 PHASE 4 RESPONSE SUBMIS 100.00 %
CHEMICALS: 008701 Bromine

ID#: 008701

COMPANY:

PRODUCT MANAGER: 53 BRUCE SIDWELL 703-308-8078 ROOM: CS1 3E3
PM TEAM REVIEWER: MARK WILHITE 703-308-8586 ROOM: CS1 3A4
RECEIVED DATE: 05/10/93 DUE OUT DATE: 09/07/93

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 191175 EXPEDITE: N DATE SENT: 05/11/93 DATE RET.: / /
CHEMICAL: 008701 Bromine
DP TYPE: 102 Phase V Review
ADMIN DUE DATE: 06/01/93 CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT
DIV : EFED	05/11/93	/ /
BRAN: EEB	5/12/93	06/01/93
SECT:	/ /	/ /
REVR :	/ /	/ /
CONTR:	/ /	/ /

* * * DATA REVIEW INSTRUCTIONS * * *

Please do a RED review for this chemical.

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

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
191176	EFGB	05/11/93	06/01/93	Y	N	N
191177	CCB	05/11/93	06/01/93	Y	N	N

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