Shaughnessy No.: 081301
Date Out of EAB: JUL 8 1988

To: R. Mountfort
Product Manager #23
Registration Division (TS-767C)

From: Paul Mastradone, Acting Chief
Environmental Chemistry Review Section #1
Exposure Assessment Branch/HED (TS-769C)

Through: Paul F. Schuda, Chief
Exposure Assessment Branch/HED (TS-769C)

Attached, please find the EAB review of . . .

Reg./File # : 239-1246

Chemical Name : Captan

Type Product : Fungicide

Product Name :

Company Name : Chevron Chemical Company

Purpose : Submission of laboratory volatility study

Date Received: 7/15/87

Action Code: 660

Date Completed: 7/7/88

EAB # (s): 70808

Monitoring Study Requested: _____

Total Reviewing time: 2 days

Monitoring Study Volunteered: _____

Deferrals to:

____ Ecological Effects Branch

____ Residue Chemistry Branch

____ Toxicology Branch

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(HED PROVIDE) CASWELL NO.:

REGISTRATION DIVISION DATA REVIEW RECORD
—TO BE USED FOR REVIEW OF STUDIES PPA ONLY—

Confidential Business Information—
Does Not Contain National Security Info. (E.O. 12065)

(HED PROVIDE) PACK No.: 7/15/87
37092 Hd

CHEMICAL NAME: Captan

(RD PROVIDE) SHAUGHNESSY NO. 081301-4

Identifying Number	Action Code	Reference Number	Record Number	Study Guideline or Narrative Description	Reg. Std. Review Submission Criteria (SEE BELOW)	Accession Number	(HED/BUD/TSS COMPLETE) Indicate with an (X) any of the listed submissions which are not studies as defined by the study guidelines
239-124C	660	100	199371	163-2 Lab. Val	3	402319-01	

PRODUCT MANAGER (PM) or REVIEW MANAGER (RM) AND NUMBER: Richard F Mountfort 23

PM/RM TEAM MEMBER AND NUMBER: Eugene Wilson 10

DATE RECEIVED (EPA): 6-12-87

RD BRANCH CHIEF INITIALS: E

CHECK APPLICABLE BOX:

- ☐ Adverse 6(a)(2) Data (405,406)
- ☐ Suspect Data (415,416)
- ☐ IBT Data (485,486)
- ☐ Product Specific Data (Reregistration) (655,656)
- ☒ Generic Data (Reregistration) (660,661)
- ☐ Special Review Data (870,871)

EAB II 70808

NUMBER OF INDIVIDUAL STUDIES SUBMITTED: 1

HAVE ANY OF THE ABOVE STUDIES (in whole or in part) BEEN PREVIOUSLY SUBMITTED FOR REVIEW? (circle: yes or (no)) If yes, please identify the study(ies):

RELATED ACTIONS: Captan RS-Data

INSTRUCTIONS:

Rev. Laboratory Data and indicate if a Field Volatility Study will be Required. See Letters dated June 8 and June 30, 1987

TO BE COMPLETED BY RSERB

DATE SENT TO HED/BUD/TSS: 7-15-87

PRIORITY NUMBER: 50

PROJECTED RETURN DATE: 9-11-87

DATE RETURNED TO RD (HED/BUD/TSS PROVIDE):

REVIEWS SENT TO:

HED: ☐ SIS ☐ TB ☐ RCB ☒ EAB ☐ EEB RD: ☐ TSS BUD: ☐ EAB ☐ SSB

	TYPE OF REVIEW	NUMBER OF ACTIONS: Reregistration	Special Review	Other
TO: HED	Toxicology			
HED	Ecological Effects			
HED	Residue Chemistry			
HED ✓	Exposure Assessment	1		
RD	Product Chemistry			
RD	Efficacy			
RD	Precautionary Labeling/Acute Tox.			
BUD	Science Support			
BUD	Economic Analysis			

FOR DATA SUBMITTED UNDER A REGISTRATION STANDARD: Review Submission Criteria

Policy Note #31

1 = data which meet 6(a)(2) or meet 3(c)(2)(B) flagging criteria

2 = data of particular concern

3 = data necessary to determine tiered testing requirements

NOTE TO TSS: Return 1 Copy To RSERB

INCLUDE AN ORIGINAL AND FOUR (4) COPIES OF THIS COMPLETED FORM FOR EACH BRANCH CHECKED FOR REVIEW.

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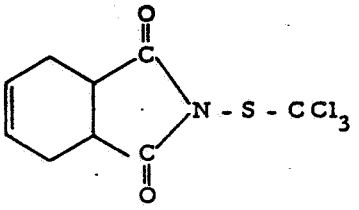
1. CHEMICAL: Common name:

Captan

Chemical name:

cis-N-((Trichloromethyl)thio)-4-cyclohexene-1,2-dicarboximide.

Structure:



2. TEST MATERIAL:

Trichloromethyl-labeled [^{14}C]captan.
Cyclohexene ring-labeled [^{14}C]captan.

3. STUDY/ACTION TYPE:

Submission of laboratory volatility study in response to data requirements listed in the Captan Registration Standard.

4. STUDY IDENTIFICATION:

Pack, D.E. 1987. Captan volatility from soil. Laboratory Project ID MEF-0027. Unpublished study submitted by Chevron Chemical Company on behalf of the Captan Task Force. (40231901)

5. REVIEWED BY:

L. Lewis
Environmental Scientist
Review Section #1
OPP/HED/EAB

Signature: Laurie C. Lewis

Date: JUL 8 1988

6. APPROVED BY:

Paul Mastradone
Acting Chief
Review Section #1
OPP/HED/EAB

Signature: Paul J. Mastradone

Date: JUL 8 1988

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7. CONCLUSIONS:

A. Data were provided on both the trichloromethyl and tetrahydrophthalamide portions of the captan molecule by this study. [^{14}C]Residues did not volatilize appreciably from sand soil treated with ring-labeled [^{14}C]captan (50% wettable powder) at 1 lb ai/A, with approximately 0.003% of the applied radioactivity volatilized over a 9 day period. Slightly greater amounts of radioactivity volatilized from trichloromethyl-labeled [^{14}C]captan treated soil (3.9% of the applied), indicating the presence of volatile degradates. TLC results showed that none of the volatile radioactivity from this label was parent captan.

B. This study is scientifically sound and fulfills the data requirement for a laboratory volatility study for captan. Based on the results of this study, EAB concurs with waiving the requirement for a field volatility study for captan.

8. RECOMMENDATIONS:

Based on acceptable data showing that the volatility of captan from soil under laboratory conditions is low, EAB recommends waiving the requirement for a field volatility study for captan.

9. BACKGROUND:

This study was submitted by Chevron Chemical Company on behalf of the Captan Task Force in response to the requirement for a laboratory volatility study in the Captan Registration Standard. The registrant has also submitted a request for a waiver of the field volatility study, based on the results of the laboratory study.

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES:

See review of individual study.

11. COMPLETION OF ONE-LINER:

N/A

12. CBI APPENDIX:

N/A

DATA EVALUATION RECORD

CAPTAN STUDY 1

CHEM 081301 Captan

BRANCH EAB

FORMULATION--06--WETTABLE POWDER

FICHE/MASTER ID 40231001

Pack, D.E. 1987. Captan volatility from soil. Laboratory Project ID MEF-0027. Unpublished study submitted by Chevron Chemical Company on behalf of the Captan Task Force.

SUBST. CLASS = S

DIRECT RVW TIME = 5

REVIEWED BY: L. Lewis
Environmental Scientist
Review Section #1
OPP/HED/EAB

Laurie C. Lewis
JUL 8 1988

APPROVED BY: Paul Mastradone, Acting Chief
Review Section #1
OPP/HED/EAB

Paul J. Mastradone
7/8/88

CONCLUSIONS:

Data were provided on both the trichloromethyl and tetrahydrophthalamide portions of the captan molecule by this study. [^{14}C]Residues did not volatilize appreciably from sand soil treated with ring-labeled [^{14}C]captan (50% wettable powder) at 1 lb ai/A, with approximately 0.003% of the applied radioactivity volatilized over a 9 day period. Slightly greater amounts of radioactivity volatilized from trichloromethyl-labeled [^{14}C]captan treated soil (3.9% of the applied), indicating the presence of volatile degradates. TLC results showed that none of the volatile radioactivity from this label was captan.

SUMMARY OF DATA BY REVIEWER:

Scrubber solutions from the soil treated with ring-labeled [^{14}C]captan did not contain sufficient amounts of radioactivity for characterization. Three spots were developed on the TLC plate from soil treated with trichloromethyl-labeled [^{14}C]captan. The amount of radioactivity found in each spot is shown in Table 1. None of the radioactivity was identified as captan; identification of the remaining radioactivity is to be included in an aerobic soil metabolism study currently being conducted.

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Volatilization of [^{14}C]residues was low, with approximately 3.9 and 0.003% of the applied radioactivity volatilized over a 9-day period from soil samples treated with trichloromethyl-labeled [^{14}C]captan and ring-labeled [^{14}C]captan, respectively (Tables 2 and 3).

MATERIALS AND METHODS:

Two 50 g samples of sand soil (92% sand, 6% silt, 2% clay, pH 7.2, 1.8% organic matter, CEC 3.6 meq/100 g) from Ocoee, Florida were brought to approximately 75% of field capacity and then surface-treated with captan (50% wettable powder formulation, prepared from [^{14}C]captan labeled in the tetrahydrophthalamide or trichloromethyl moiety) at 1 lb ai/A. The treated soil was maintained at 25 C in an apparatus designed to collect volatile compounds (see Figure 1). Air flow through the system was 100 mL/min.

Methanol scrubber solutions were changed every 24 hours during the 9-day study period, and 10 mL aliquots were removed for counting. Samples were evaporated to dryness, and distillates were trapped with a dry-ice cooled condenser. The residue was dissolved in methanol and aliquots of the residue and distillate were quantified using LSC. A portion of the day 1 sample from the trichloromethyl-labeled [^{14}C]captan was spotted on a TLC plate along with a captan standard. The TLC plate was developed with chloroform:acetic acid (40:1), autoradiographed, and radioactive areas were scraped from the plate and quantified.

DISCUSSION:

1. A material balance was not provided. Only amounts of radioactivity volatilized from the treated soil samples were reported.

Table 1. Distribution of radioactivity on TLC plate from soil sample treated with trichloromethyl-labeled [^{14}C]captan.

R_f	% of amount spotted
0 (origin)	61
0.11	16
0.20	23
0.73 (captan)	0

Captan Science Reviews

Page _____ is not included in this copy.

Pages __8__ through _10__ are not included in this copy.

The material not included contains the following type of information:

_____ Identity of product inert ingredients.

_____ Identity of product inert impurities.

_____ Description of the product manufacturing process.

_____ Description of product 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

__X__ 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.