

US EPA ARCHIVE DOCUMENT

Shaughnessy No.: 080803  
DP Barcode: D172175  
Case: 283024  
Submission: S408170  
Date Out of EFGWB: March 3, 1992

TO: R. Taylor  
Product Manager #25  
Registration Division (H7505C)

FROM: Henry Nelson, Ph.D., Acting Section Head *H Nelson*  
Surface Water Section  
Environmental Fate and Groundwater Branch/EFED (H7507C)

THRU: Hank Jacoby, Chief *Hank Jacoby*  
Environmental Fate and Groundwater Branch  
Environmental Fate and Effects Division (H7507C)

Attached, please find the EFGWB review of:

Reg./File #(s): 080803-0

Common Names: Atrazine

Type of Product: Herbicide

Product Name: \_\_\_\_\_

Company Name: CIBA-GEIGY

Purpose: Review of FIFRA 6(2)(a) surface water monitoring data

Action Code: 405

EFGWB #(s): 92-032

Total Review Time: 0.5 day

This review is of a summary of data (421161-01) on the concentrations of atrazine and atrazine degradates in 19 samples collected December 1990 from Rathburn Reservoir in Iowa and in 18 samples collected May to August 1991 from the Missouri River. The data summary was submitted by CIBA-GEIGY in compliance with FIFRA 6(2)(a).

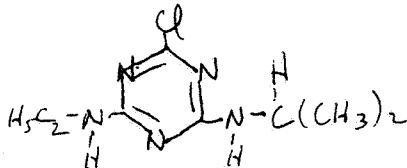
1. CHEMICAL:

Common Name: Atrazine

Chemical Name: 2-Chloro-4-ethylamino-6-isopropylamino-1,3,5-triazine

Type of Product: Herbicide

Chemical Structure:



Physical/Chemical Properties

Molecular Weight: 354

Physical State : White crystalline solid

Aqueous Solubility: 70 mg/L @ 22°C

Vapor Pressure: 3.0 X 10<sup>-7</sup> mm Hg

Log Octanol/Water Partition Coefficient 2.33 to 2.71

2. TEST MATERIALS:

Not applicable.

3. STUDY/ACTION TYPE:

Review of FIFRA 6(a)(2) surface water monitoring data.

4. STUDY IDENTIFICATION:

D172175/421161-01: Letter dated 11/27/91 from K. Stumpf of CIBA-GEIGY to R. Taylor of RD/OPP. /Summary

5. REVIEWED BY:

Henry Nelson, Ph.D., Acting Section Head *H Nelson*  
Surface Water Section  
Environmental Fate and Groundwater Branch/EFED

6. APPROVED BY:

Hank Jacoby, Chief  
Environmental Fate and Groundwater Branch  
Environmental Fate and Effects Division/OPP

7. CONCLUSIONS:

(1) Fifteen of the 19 samples collected in December 1990 from Rathburn Reservoir in Iowa had atrazine concentrations exceeding the MCL (3 ug/L) ranging from 3.0 to 4.6 ug/L. Atrazine concentrations in the January, February, and March 1991 samples were all below the MCL ranging from 0.58 to 1.7 ug/L.

(2) One or more of 3 chloro-triazine degradates of atrazine (G-30033: 2-amino-4-chloro-6-isopropylamino-s-triazine; G-28279: 2-amino-4-chloro-6-ethylamino-s-triazine; and G-28273: 2,4-diamino-6-chloro-s-triazine) were detected in all 19 samples collected from Rathburn Reservoir at concentrations ranging from 0.36 to 1.1 ug/L.

(3) Eighteen samples were collected May-August 1991 from an unspecified location or locations in the lower Missouri River. The 7 samples collected in May or June all had atrazine concentrations

exceeding the MCL (3 ug/L) ranging from 3.3 to 5.7 ug/L. The remaining 11 samples (collected in July or August) had atrazine concentrations below the MCL ranging from 0.37 to 0.85 ug/L.

(4) One or more of 3 chloro-triazine degradates of atrazine (G-30033: 2-amino-4-chloro-6-isopropylamino-s-triazine; G-28279: 2-amino-4-chloro-6-ethylamino-s-triazine; and G-28273: 2,4-diamino-6-chloro-s-triazine) were detected in all 18 samples collected from the lower Missouri River ranging from 0.13 to 0.45 ug/L.

(5) Atrazine concentrations exceeding the MCL (3 ug/L) are frequently reported for some surface water samples collected from numerous locations in the corn belt in late April through June. However, atrazine concentrations in those locations generally decline to below 1 ug/L by the late summer or early fall and remain below 1 ug/L through early spring. It is unusual for samples collected in December to have atrazine concentrations exceeding the MCL such as those from Rathburn Reservoir.

(6) The results of the analyses were summarized by CIBA-GEIGY in their 11/27/91 letter, but the results for individual samples were not provided. No information was provided on the hydrological characteristics of the lake or on the sampling, analytical, or QA/QC methodologies employed. Therefore, EFGWB cannot verify the representativeness or accuracy of the data, nor speculate on the causes of the relatively high levels of atrazine contamination (see recommendations).

#### 8. RECOMMENDATIONS:

CIBA-GEIGY should provide the information cited as missing in item #6 of the conclusions section when they submit either an interim or final monitoring report. However, it is generally unnecessary for CIBA-GEIGY to submit interim monitoring reports or data summaries (such as this) covering sampling periods of less than one year. The reason is that under new drinking water regulations, MCLs are compared to annual average concentrations in 4 samples collected quarterly. Therefore, short term averages exceeding the MCL and individual samples with concentrations exceeding the MCL need not be reported more frequently than annually unless they are so high, the annual concentration will either automatically exceed or have a high probability of exceeding the MCL. For example, a more frequent than annually reporting of individual concentrations exceeding 4 times the MCL might be justifiable, since such concentrations would automatically cause an average annual concentration based upon 4 quarterly samples to exceed the MCL.

#### 9. BACKGROUND:

The CIBA-GEIGY letter contains FIFRA 6(a)(2) data submissions on atrazine and atrazine degradate concentrations in

samples collected December 1990 from Rathburn Reservoir and samples collected May-August 1991 from the Missouri River.

10. DISCUSSION:  
See conclusions.

11. COMPLETION OF ONE-LINER  
Not applicable

12. CBI INDEX:  
Not applicable.

6(a)(2)

DP BARCODE: D172175

CASE: 283024  
SUBMISSION: S408170

DATA PACKAGE RECORD  
BEAN SHEET

DATE: 12/11/91  
Page 1 of 1

\*\*\* CASE/SUBMISSION INFORMATION \*\*\*

CASE TYPE: MISCELLANEOUS ACTION: 405 DATA-ADVERSE DATA  
CHEMICALS: 080803 Atrazine ( 2-chloro-4-(ethylamino)-6-(isopropylami 0.0000%

ID#: 283024

COMPANY: CIBA-GEIGY CORP.

PRODUCT MANAGER: 25 ROBERT TAYLOR 703-305-6800 ROOM: CM2 241

PM TEAM REVIEWER: JAMES MORRILL 703-305-5705 ROOM: CM2 251

RECEIVED DATE: 12/03/91 DUE OUT DATE: 02/11/92

\*\*\* DATA PACKAGE INFORMATION \*\*\*

DP BARCODE: 172175 EXPEDITE: N DATE SENT: 12/11/91 DATE RET.: / /  
CHEMICAL: 080803 Atrazine ( 2-chloro-4-(ethylamino)-6-(isopropylamino)-s-tri

DP TYPE: 001 Submission Related Data Package

ADMIN DUE DATE: 01/05/92 CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT
DIV : EFED	12/12/91	/ /
BRAN: EFGB	/ /	/ /
SECT: IO	/ /	/ /
REVR :	/ /	/ /
CONTR:	/ /	/ /

\*\*\* DATA REVIEW INSTRUCTIONS \*\*\*

Please review attached summary report (Mrid # 421161-01) submitted under [redacted] of CIBA-GEIGY's efforts to monitor ground and-surface water supplies in 4 states.

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

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
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420322

Page \_\_\_ is not included in this copy.

Pages 6 through 11 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.