

US EPA ARCHIVE DOCUMENT

7 9-30-92

Shaughnessy No.: 080803
DP Barcode: D181122
Case: 282977
Submission: S422731
Date Out of EFGWB: SEPT 30, 1992

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

FROM: Henry Nelson, Ph.D., 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(a)(2) surface water monitoring data

Action Code: 405

EFGWB #(s): 92-1229

Total Review Time: 0.5 day

This review is of a summary of data (424170-01) on the concentrations of atrazine, atrazine degradates, and metolachlor in samples collected in March and April 1992 from West Lake which is the primary source of drinking water for Osceola, Iowa. The data summary was submitted by CIBA-GEIGY in compliance with FIFRA 6(a)(2).

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: 3.0×10^{-7} 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:

D181122/424170-01: Letter dated 6/22/92 from K. Stumpf of CIBA-
GEIGY to R. Taylor of RD/OPP.

5. REVIEWED BY:

Henry Nelson, Ph.D., 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) One raw and 1 finished water sample were collected from West Lake in both March and April 1992. All 4 samples (2 raw, 2 finished) had atrazine concentrations exceeding the 3 ug/L MCL ranging from 3.2 to 4.1 ppb

(2) Three atrazine degradates (desethyl-atrazine, desisopropyl-atrazine, and desalkyl-atrazine) were detected in all 4 samples at concentrations ranging from 0.46 to 0.97 ug/L.

(3) Metalochlor was detected in all 4 samples at concentrations ranging from 0.26 to 0.38 ug/L (which are much less than the lifetime drinking water HA of 100 ug/L).

(4) 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 somewhat unusual for samples collected in March to have atrazine concentrations exceeding the MCL such as those from West Lake.

(5) Two previous CIBA-GEIGY submissions (see EFGWB #92-0267 dated January 92 and EFGWB #-not specified dated 3/3/92) have shown a large percentage of both raw and finished water samples collected April-September 1991 from West Lake with atrazine concentrations exceeding the MCL. Two more recent CIBA-GEIGY submissions (see EFGWB #s 92-0536 and 92-0818) reported atrazine concentrations exceeding the MCL in samples collected in December 1991 and January 1992, respectively. A DuPont submission (see EFGWB #92-0152 dated January 1992) reported that every finished water sample collected from West Lake from June through mid-October 1991 had atrazine concentrations exceeding the MCL of 3 ug/L. Samples collected in April and May had atrazine concentrations less than the MCL, but greater than 2 ug/L. The atrazine concentration in the single March sample also exceeded the MCL.

(6) This March/April 1992 data in conjunction with the December 1991/January 1992 data and March to mid-October 1991 data previously submitted by CIBA-GEIGY and DuPont suggests that the time weighted averaged annual mean concentration of atrazine in West Lake in 1991/1992 probably exceeded the MCL.

(7) The results of the analyses were summarized by CIBA-GEIGY in their 6/22/92 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.

8. RECOMMENDATIONS:

When enough data is collected to determine atrazine concentrations in West Lake for a period of one to two years, CIBA-GEIGY should submit an actual study report which presents all of the data, a comparison of time weighted annual average atrazine concentration to the MCL, the analytical and QA/QC procedures used, and a discussion on what may be causing the continually elevated atrazine concentrations including the hydrology of West Lake and its tributaries.

9. BACKGROUND:

This review is of a summary of data (424170-01) on the concentrations of atrazine, atrazine degradates, and metolachlor in samples collected in March and April 1992 from West Lake which is the primary source of drinking water for Osceola, Iowa. The data summary was submitted by CIBA-GEIGY in compliance with FIFRA 6(a)(2).

10. DISCUSSION:
See conclusions.

11. COMPLETION OF ONE-LINER
Not applicable

12. CBI INDEX:
Not applicable.

DP BARCODE: D181122

CASE: 282977
SUBMISSION: S422731

DATA PACKAGE RECORD
BEAN SHEET

DATE: 07/30/92
Page 1 of 1

*** CASE/SUBMISSION INFORMATION ***

CASE TYPE: MISCELLANEOUS
CHEMICALS: 080803 Atrazine (ANSI)
100101 Cyanazine

ACTION: 405 6(A)(2) ADVERSE DATA

0.0000%
0.0000%

ID#: 282977

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: 07/06/92

DUE OUT DATE: 09/14/92

*** DATA PACKAGE INFORMATION ***

DP BARCODE: 181122

EXPEDITE: N

DATE SENT: 07/30/92

DATE RET.: / /

CHEMICAL: 080803 Atrazine (ANSI)

DP TYPE: 001 Submission Related Data Package

ADMIN DUE DATE: 08/24/92

CSF: N

LABEL: N

ASSIGNED TO	DATE IN	DATE OUT
DIV : EFED	07/30/92	/ /
BRAN: EFGB	/ /	/ /
SECT: SWS	/ /	/ /
REVR :	/ /	/ /
CONTR:	/ /	/ /

*** DATA REVIEW INSTRUCTIONS ***

Attention Henry Nelson:

Please review attached report which updates previous reports. This report includes findings are for samples collected March/April, 1992. The MRID # is 424170-01.

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

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
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6(a)(2)

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Page _____ is not included in this copy.

Pages 6 through 9 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.