

US EPA ARCHIVE DOCUMENT

2 9.30.92

Shaughnessy No.: 080803
DP Barcode: D174704
Case: 282977
Submission: S411907
Date Out of EFGWB: SEPT 30, 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: 406

EFGWB #(s): 92-0536

Total Review Time: 0.5 day

This review is of a summary of data (422019-01) on the concentrations of atrazine and atrazine degradates in samples collected in December 1991 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:

D174704/422019-01: Letter dated 2/10/92 from K. Stumpf of CIBA-
GEIGY to R. Taylor of RD/OPP.

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) One raw and one finished water sample were collected from West Lake in December 1991. Both samples (1 raw, 1 finished) had atrazine concentrations exceeding the 3 ug/L MCL (5.5 and 6.1 ug/L).

(2) Three atrazine degradates (desethyl-atrazine, desisopropyl-atrazine, and desalkyl-atrazine) were detected in both samples at concentrations ranging from 0.72 to 1.1 ug/L.

(3) 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 December to have atrazine concentrations exceeding the MCL such as those from West Lake.

(4) 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 (10/12 = 83%) of both raw and finished water samples collected April-September 1991 from West Lake with atrazine concentrations exceeding the MCL ranging from 3.9 to 9.3 ug/L. 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.

(5) This December 1991 data in conjunction with March to mid-October 1991 data previously submitted by CIBA-GEIGY and DuPont suggests that the time averaged annual mean concentration of atrazine in West Lake in 1991 probably exceeded the MCL although additional data are needed for January, February, and November 1991 to confirm that.

(6) The results of the analyses were summarized by CIBA-GEIGY in their 2/10/92 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 at least one year, 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:

The CIBA-GEIGY letter contains FIFRA 6(a)(2) data submissions on atrazine and atrazine degradate concentrations in samples collected August-September 1991 from West Lake which is the primary source of drinking water for Osceola, Iowa.

10. DISCUSSION:
See conclusions.

11. COMPLETION OF ONE-LINER
Not applicable

12. CBI INDEX:
Not applicable.

DP BARCODE: D174704

CASE: 282977
SUBMISSION: S411907

DATA PACKAGE RECORD
BEAN SHEET

DATE: 02/20/92
Page 1 of 1

*** CASE/SUBMISSION INFORMATION ***

CASE TYPE: MISCELLANEOUS ACTION: 406 RESUBMISSION
CHEMICALS: 080803 Atrazine (2-chloro-4-(ethylamino)-6-(isopropylami 0.0000%
100101 Cyanazine 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: 02/12/92 DUE OUT DATE: 04/22/92

*** DATA PACKAGE INFORMATION ***

DP BARCODE: 174704 EXPEDITE: N DATE SENT: 02/20/92 DATE RET.: / /
CHEMICAL: 080803 Atrazine (2-chloro-4-(ethylamino)-6-(isopropylamino)-s-tri
DP TYPE: 001 Submission Related Data Package
ADMIN DUE DATE: 03/16/92 CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT
DIV : EFED	02/20/92	/ /
BRAN: EFGB	/ /	/ /
SECT: GTS	/ /	/ /
REVR :	/ /	/ /
CONTR:	/ /	/ /

*** DATA REVIEW INSTRUCTIONS ***

6(a)(2)

Please review attached report which includes updated
sampling for atrazine and cyanazine in Lake Osceola.

MRID# IS 422019

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

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
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Page _____ is not included in this copy.

Pages 6 through 8 are not included.

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- 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.

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