

1-10-92

Shaughnessy No.: 080803  
DP Barcode: D171803  
Case: 282977  
Submission: S407666  
Date Out of EFGWB: \_\_\_\_\_

1/10/92

TO: R. Taylor  
Product Manager #50  
Registration Division (H7508W)

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): 92-0267

Total Review Time: 0.5 day

This review is of a summary of data on the concentrations of atrazine and cyanazine in samples collected April-July 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(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:  $3.0 \times 10^{-7}$  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:

D171803: Letter dated 11/6/91 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) CIBA-GEIGY indicated that in cooperation with the Osceola Water Department, one raw and one finished water sample were collected in April, May, June, and July 1991. Six of the 8 total samples (4 raw, 4 finished) had atrazine concentrations exceeding the MCL (3 ug/L) ranging from 3.9 to 7.8 ug/L.

(2) Three atrazine degradates (desethyl-atrazine, desisopropyl-atrazine, and desalkyl-atrazine) were detected in all 8 samples at concentrations ranging from 0.58 to 1.4 ug/L.

(3) Cyanazine was detected in the July raw and finished water samples at 13 and 12 ug/L which exceed the cyanazine lifetime drinking water HA of 10 ug/L (no MCL has yet been established for

cyanazine, but the Office of Drinking Water frequently ends up setting the MCL equal to the lifetime drinking water HA).

(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.

(5) The results of the analyses were summarized by CIBA-GEIGY in their 11/6/91 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.

8. RECOMMENDATIONS:

CIBA-GEIGY should provide the information cited as missing in item #5 of the conclusions section.

9. BACKGROUND:

The CIBA-GEIGY letter contains FIFRA 6(a)(2) data submissions on atrazine and cyanazine concentrations in samples collected April-July 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.

Agricultural Division  
CIBA-GEIGY Corporation  
P.O. Box 18300  
Greensboro, North Carolina 27419-8300  
Telephone 919 832 6000

CIBA-GEIGY

Case # 282977

Certified Mail

November 6, 1991

Document Processing Desk [6(a)(2)]  
Office of Pesticide Programs (H7504C)  
U.S. Environmental Protection Agency  
401 M. Street, S.W.  
Washington, D.C. 20460

Attn: Mr. Robert J. Taylor, PM 25

Dear Mr. Taylor:

SUBJECT: REPORT OF FINDINGS OF ATRAZINE AND ITS METABOLITES  
IN SURFACE WATER

CIBA-GEIGY has been cooperating with the Osceola Water Department in Osceola, Iowa since April, 1991 in analyzing split water samples taken from West Lake in Osceola. Two water samples, one raw and one finished, taken in April, May, June, and July of 1991 (total of 8 samples) were submitted to CIBA-GEIGY in Greensboro, NC for analysis. Parent atrazine was found above the HAL of 3 ppb in 6 of these samples ranging from 3.9-7.8 ppb. In addition, detectible residues of atrazine's three chlorotriazine metabolites, G-30033, G-28279 and G-28273 were found in all 8 samples ranging from 0.58 - 1.4 ppb. In addition, detections of cyanazine (12, 13 ppb) were found in the samples collected in July. CIBA-GEIGY is reporting the cyanazine detections because we have a product registered which contains cyanazine and metolachlor (Cycle Herbicide - EPA Reg. No. 100-716) and we cannot say with certainty that Cycle was not used in this area.

Sincerely,

*Karen S. Stumpf*  
Karen S. Stumpf  
Regulatory Manager  
Regulatory Affairs