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

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

THRU: Hank Jacoby, Chief  
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): 92-06106

Total Review Time: 0.5 day

This review is of a summary of data (421669-01) on the concentrations of atrazine and atrazine degradates in samples collected monthly October 1990 to March 1991 from Hoover Reservoir which serves Columbus, Ohio. 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 10⁻³ 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:

5. REVIEWED BY:
Henry Nelson, Ph.D., Acting Section Head
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) Samples were collected monthly from October 1990 to March 1991 from the Hoover Reservoir. Three of the 6 samples (October, November, and December 1990) had atrazine concentrations exceeding the MCL (3 ug/L) ranging from 6.0 to 6.3 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-g-triazine; G-28279: 2-amino-4-chloro-6-ethylamino-g-triazine; and G-28273: 2,4-diamino-6-chloro-g-triazine) were detected in 4 of the 6 samples at concentrations ranging from 0.23 to 1.5 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 unusual for samples collected in October, November, and December to have atrazine concentrations exceeding the MCL such as those from the Hoover Reservoir.

(4) The results of the analyses were summarized by CIBA-GEIGY in their 1/3/92 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 (see recommendations).

8. RECOMMENDATIONS:

CIBA-GEIGY should provide the information cited as missing in item #4 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 FIFOA 6(a)(2) data submissions on atrazine and atrazine degrade concentrations in samples collected October 1990-April 1991 from Hoover Reservoir which serves Columbus, Ohio.

10. DISCUSSION:
See conclusions.

11. COMPLETION OF ONE-LINER
Not applicable

12. CBI INDEX:
Not applicable.
**CASE/ SUBMISSION INFORMATION**

Case Type: Miscellaneous  
Action: 405 Data-Adverse Data

Chemicals: 080803 Atrazine (2-chloro-4-(ethylamino)-6-(isopropylamino) 0.000%

ID#: 283152  
Company: Ciba-Geigy Corp.

Product Manager: 25 Robert Taylor  
PM Team Reviewer: James Morrill

Received Date: 01/13/92  
Due Out Date: 03/23/92

**DATA PACKAGE INFORMATION**

DP Barcode: 173497  
Expedite: N  
Date Sent: 01/24/92  
Date Ret.: / /  
Chemical: 080803 Atrazine (2-chloro-4-(ethylamino)-6-(isopropylamino)-s-tri

DP Type: 001 Submission Related Data Package

Admin Due Date: 02/18/92  
Label: N

Assigned To: Date In: Date Out:

Div: EFED  
Branch: EFGB  
Sect: LTS  
Revr:  
Contr:  

**DATA REVIEW INSTRUCTIONS**

Please review attached 6(a)(2) report (MRID# 421669-01) of atrazine and its metabolites in surface water (reservoir) in Ohio.

**ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION**

DP BC Branch/Section Date Out Due Back INS CSF LABEL

EFG # 0466
Page 5 is not included in this copy.
Pages 5 through 7 are not included.

The material not included contains the following type of information:

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[ ] Description of the product manufacturing process.
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