

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Materials Management, Bureau of Pest Management

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June 2, 2015

VIA E-MAIL (Company # 100)

Ms. Susan Person
Syngenta Crop Protection, LLC
410 South Swing Road
Greensboro, North Carolina 27409

Re: Accepted Labeling Allowing Aerial Application for Switch 62.5 WG (EPA Reg. No. 100-953) and Cannonball WG (EPA Reg. No. 100-1454) as the Major Change in Labeled Use Application for the Active Ingredient Fludioxonil.
Chemical Code: 071503

Dear Ms. Person:

The New York State Department of Environmental Conservation (Department) has completed the technical review of the above referenced application and data package received on January 8, 2015. The above referenced products contain the active ingredient fludioxonil and are currently registered for ground application on various agricultural crops in New York State. Syngenta proposes to add aerial application for several field crops such as beans and leafy vegetables. Aerial applications are limited to two per season and a buffer strip of 150 feet is applied between the aerial application and surface water. Application of the active ingredient Fludioxonil continues to be limited to only strawberries and onions in Nassau and Suffolk Counties, New York due to groundwater concerns.

The Department's Bureau of Habitat (BOH) reviewed this application to determine impacts to aquatic organisms from aerial application of the active ingredient fludioxonil and determined that aerial application limited by a 150 foot buffer between surface water and the crop site was sufficient to be protective of aquatic organisms. Impacts to non-target terrestrial organisms, groundwater, and human health were not re-evaluated from that of the previous assessment dated February 4, 2003. The Department has determined no negative impact to New York State resources from this major change in labeled use of the active ingredient fludioxonil. The complete ecotoxicity assessment follows as an Attachment to this letter.

The Department determined completeness of this application on February 13, 2015 and in accordance with ECL §33-0704, is required to make a determination as to whether the above listed products can be registered in New York State for aerial application on or before July 13, 2015.

The Department hereby accepts Switch 62.5 WG (EPA Reg. No. 100-953) & Cannonball WG (EPA Reg. No. 100-1454) for registration as labeled for aerial application, in New York State. Enclosed for your records are copies of the New York State stamped "Accepted for Registration" labels for both products.

Please note that a proposal by Syngenta Crop Protection LLC or any other registrant, to register a product that contains fludioxonil, and whose labeled uses are likely to increase the potential for significant impact to humans, non-target organisms, or the environment, would constitute a major change in labeled use pattern. Such an application must be accompanied by a new application fee and meet the requirements listed in Appendix 1.B. of "New York State Pesticide Product Registration Procedures" (November 2014). Such information, as well as forms, can be accessed at our website: <http://www.dec.ny.gov/chemical/27354.html>

Please be aware that any unregistered product or labeling may not be sold, offered for sale, distributed, or used in New York State. Please contact Paula McBath, of the Pesticide Product Registration Section, at (518) 402-8768, if you have any questions.

Sincerely,



Scott Menrath, P.E.
Director
Bureau of Pest Management

APPENDIX

I. BACKGROUND

Fludioxonil was previously reviewed by the Department's Bureau of Habitat (BOH) initially in 1995 as a new active ingredient and subsequently on a number of occasions for additional uses. This review is for fludioxonil as contained in two products, Cannonball WG fungicide which contains fludioxonil as the sole active ingredient (ai), and Switch 62.5 WG which contains the ai cyprodinil in addition to fludioxonil. Cyprodinil was previously reviewed by BOH for aerial application. Both product labels include instructions for applications using ground, irrigation, and aerial equipment. Both labels include use buffers around surface waters of 75 feet for ground applications and 150 feet by air.

Cannonball WG is 50.0% fludioxonil and is labeled for use on a number of crops grown in New York State. Applications of 4-8 ounces of Cannonball, 0.13-0.25lb. ai, are made at 7-21 day intervals depending on the crop and disease pressure. No more than 2 aerial applications are allowed per year. The yearly maximum application rate is equal to 0.9 lb. fludioxonil per acre/yr. For resistance management no more than 2 applications are made before switching to a fungicide with a different mode of action.

Switch 62.5 WG is also labeled for use on a variety of agricultural crops. It is 25.0% fludioxonil and 37.5% cyprodinil. Applications of 10-14 ounces of formulation per acre, equaling 0.23-0.33 lb. cyprodinil and 0.16-0.22 fludioxonil, are made at 7-21 day intervals. As with Cannonball, no more than 2 applications by air are allowed per year. No more than 56 ounces of Switch, 1.3 lb. cyprodinil and 0.9lb. fludioxonil, may be applied per acre/yr.

Application rates for both active ingredients are within the ranges previously reviewed by BOH.

II. AERIAL APPLICATIONS

BOH evaluates aerial applications using the PONDTOX Direct Application to water module. The decision to allow, constrain, or disallow the applications is based on the active ingredients toxicity to aquatic organisms and its persistence.

Results from 3 PONDTOX Direct Application simulations are given in the attached data file. Simulations I and II are of direct applications at the higher allowed fludioxonil rate, 0.25 lb ai/acre, made directly to the surface of a 1 acre pond 6 inches deep and 1 foot deep respectively. Simulation III is of the yearly maximum aerial application rate as though it was applied all at once.

III. RESULTS AND SUMMARY

Direct application of the fludioxonil content of these two products to the surface of the modeled pond does not exceed BOH criteria for protection of aquatic resources. The algae LC₅₀ was exceeded by a single application but fish or invertebrate LC₅₀s were not exceeded.

The fludioxonil content of the subject products is not likely to pose an undue risk to non-target resources. BOH does not object to aerial applications of fludioxonil as labeled.

IV. BUREAU OF HABITAT ECOTOXICITY ASSESSMENT WORKSHEET

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Pesticide Screening Worksheet

NOTE: A value of 9999 in a field indicates that no data were entered. 9999 is entered automatically to prevent division by zero errors when subsequent pesticide analysis programs are run.

Active Ingredient: fludioxonil

Part 1. Physical/Chemical Characteristics

Solubility (mg/L): 1.5 Density: 9999 Kow: 13182
Single treatment application rate: 0.25 lbs AI/acre
Maximum annual application rate: 0.9 lbs AI/acre/season

Part 2. Environmental Fate Data Units are half-lives in days

A. Aquatic Fate

1. Hydrolysis @ pH5: 9999 pH7: 9999 pH9: 9999 pH imm: 700
2. Photolysis @ pH5: 9999 pH7: 9999 pH9: 9999 pH imm: 10
3. Aerobic metabolism: 9999 Anaerobic metabolism: 9999

B. Terrestrial Fate

1. Photolysis Low: 9999 High: 9999 Mean: 20
2. Aerobic metabolism Low: 9999 High: 9999 Mean: 182
3. Anaerobic metabolism Low: 9999 High: 9999 Mean: 9999
4. Field dissipation Low: 95 High: 440 Mean: 204

Part 3. Residue data from an application rate of: 0.9 lbs AI/Acre

Residue data units are ppm, or mg/kg of vegetation

- A. Short grass: 216
 - B. Long grass: 99
 - C. Leaves, leafy crops: 113
 - D. Forage (Alfalfa, clover, small insects, etc.): 53
 - E. Seeds/pods: 11
 - F. Fruits: 7
 - G. Top 0.1 inch of soil: 9999
-

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Active Ingredient: fludioxonil

Part 4. Mammalian Toxicity Data

- A. Lowest mammalian acute oral LD50 in mg/kg body weight
Species: Rat LD50: 5500 NOEL: 550
- B. Lowest mammalian dietary LC50 in ppm food
Species: No data entered LC50: 9999 NOEC: 9999
- C. Lowest mammalian reproductive or chronic data in ppm food
Species: Dog chronic LOEC: 1000 NOEC: 100
-

Part 5. Avian Toxicity Data

- A. Lowest Avian acute oral LD50 in mg/kg body weight
Species: Mallard LD50: 2500 NOEL: 250
- B. Lowest Avian dietary LC50 in ppm food
Species: Mallard LC50: 2500 NOEC: 250
- C. Lowest mammalian reproductive or chronic data in ppm food
Species: Bobwhite quail LOEC: 300 NOEC: 125
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Part 6a. Aquatic Toxicity Data

- A. Lowest freshwater fish acute toxicity data in mg/L
Species: Rainbow trout LC50: 0.47 NOEC: 0.047
Species: Bluegill LC50: 0.74 NOEC: 0.074
- B. Lowest Aquatic invertebrate acute toxicity data in mg/L
Species: Daphnia magna LC50: 0.9 NOEC: 0.09
Species: No data entered LC50: 9999 NOEC: 9999
- C. Lowest Marine/Estuarine acute toxicity data in mg/L
Species: mysid shrimp LC50: 0.27 NOEC: 0.027
Species: oyster LC50: 0.37 NOEC: 0.093
-

Part 6b. Aquatic Toxicity Data - continued

- A. Lowest algae toxicity data in mg/L
Species: Selenastrum LC50: 0.032 NOEC: 0.028
- B. Lowest macrophyte toxicity data in mg/L
Species: No data entered LC50: 9999 NOEC: 9999
- C. Lowest fish chronic toxicity data in mg/L
Species: Fathead ELS LC50: 0.077 NOEC: 0.039
- C. Lowest invertebrate chronic toxicity data in mg/L
Species: Daphnia magna LC50: 0.034 NOEC: 0.019
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PONDTOX - DIRECT APPLICATION

This program evaluates the toxicity of a direct application of fludioxonil to biota in a pond with a surface area of one acre. If the concentration of fludioxonil in the water exceeds a toxicity threshold, the model prints EXCEEDED. If the toxicity threshold is not exceeded, the model prints SAFE.

I.

Depth of pond = 0.5 feet

Application rate = 0.25 lbs AI/acre

The water column concentration of fludioxonil is 0.184 mg/L

SPECIES	LC50	NOEC
Rainbow trout	SAFE	EXCEEDED
Daphnia magna	SAFE	EXCEEDED
mysid shrimp	SAFE	EXCEEDED
Selenastrum	EXCEEDED	EXCEEDED
NO DATA ENTERED	EXCEEDED	SAFE

II.

Depth of pond = 1 feet

Application rate = 0.25 lbs AI/acre

The water column concentration of fludioxonil is 0.092 mg/L

SPECIES	LC50	NOEC
Rainbow trout	SAFE	EXCEEDED
Daphnia magna	SAFE	EXCEEDED
mysid shrimp	SAFE	EXCEEDED
Selenastrum	EXCEEDED	EXCEEDED
NO DATA ENTERED	EXCEEDED	SAFE

III.

Depth of pond = 0.5 feet

Application rate = 0.5 lbs AI/acre

The water column concentration of fludioxonil is 0.368 mg/L

SPECIES	LC50	NOEC
Rainbow trout	SAFE	EXCEEDED
Daphnia magna	SAFE	EXCEEDED
mysid shrimp	EXCEEDED	EXCEEDED
Selenastrum	EXCEEDED	EXCEEDED
NO DATA ENTERED	EXCEEDED	SAFE