TECHNICAL BULLETIN

For Aquatic Applications and The General Use Of

FlumiGard® SC

(ai: flumioxazin)

Q: How does it work on weeds so quickly?

A: FlumiGard® SC, active ingredient flumioxazin, is a light-dependent, "contact" herbicide, classified by the WSSA as a Group E diphenyl-ether-type protoporphyrinogen oxidase inhibitor. Protoporphyrinogen Oxidase, or PPO, is a plant-produced enzyme necessary for photosynthetic processes within the chlorophyll. Interfering with this process essentially deregulates the plant's ability to safely convert sunlight energy during photosynthesis, resulting in rapid cellular breakdown and plant death. *When applied as a contact herbicide, FlumiGard® SC is not translocated throughout the plant, so coverage of your target species is critical to achieve control.*

Q: How does FlumiGard® SC provide flexibility of control?

FlumiGard® SC is one of the most flexible herbicides, having both pre- and post-emergent activity on numerous weed species. In water, this active ingredient has a short half-life: 3.5 days at water pH of 5; approximately 24 hours at pH 7; and less than one hour at pH 9. This short half-life in water allows for quick breakdown of herbicide that is not taken up by the target weed species, resulting in low environmental impact. Although the half-life of FlumiGard® SC in water is short, FlumiGard® SC's flexibility of approved application methods allows you to treat waters with a wide range of pH values. In water bodies with a pH value above 8, apply FlumiGard® SC as a surface broadcast application to achieve direct contact with the emerged target weed species so that the pH of the water body will not be a limiting factor in weed control. Finally, FlumiGard® SC is approved for application at a wide range of use rates, allowing flexibility to adjust rates as needed depending on the target weed species.

Q: How can I ensure that the integrity of the flumioxazin remains stable in my spray tank?

A: FlumiGard® SC is very sensitive to spray tank and application site water pH. While remaining fully active in solution for up to 24 hours (pH 5–7), the half-life of FlumiGard® SC can drop to hours as pH becomes more alkaline (pH >8). Water tank conditioners are an excellent method to reduce the impact of bad spray water on your weed control program. *In general, add 12 ounces of Alligare Water Conditioner 1 per one hundred gallons of spray solution when your water pH is between 7 and 9, with an alkalinity of ≤150 mg/ml CaCO3. Add one quart of Alligare Water Conditioner 1 per one hundred gallons of spray solution when your water pH is ≥8 or has an alkalinity of ≥150 mg/ml CaCO3.*

Aquatics

Call 888-255-4427 or visit Alligare.com to find your Alligare Regional Specialist, or for more information about FlumiGard® SC.

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Q: My customers are increasingly asking for biological products to be used on their properties, along with my current portfolio. Is FlumiGard® SC safe to use with my biological products?

A: FlumiGard® SC has long been known to be a favorable tank-mix partner with a number of various biocatalysts and aquatic probiotics from manufacturers such as Naturalake Biosciences and Marrone Bio Innovations®. Extensive use in the field has shown that FlumiGard® SC does not adversely impact non-target biologicals to the extent that older contact-type chemistries, such as diquat and copper, are known to do.

Q: What are some additional mixes and rates to expand the spectrum of control?

A: FlumiGard® SC "plays well" in the tank with most other active ingredients you could add for expanding weed control spectrum – either in water or on land. Popular aquatic tank mix partners include:

2, 4-D	Glyphosate	Diquat
IMOX™	Ecomazapyr	Triclopyr
Fluridone		

Q: I have been applying FlumiGard® WDG, the dry product, in my program. How much of the new FlumiGard® SC liquid product should I apply?

A: FlumiGard SC was developed as an easy-mix suspended concentrate with one fluid ounce of FlumiGard® SC equaling one dry ounce of FlumiGard® WDG. So if you were applying 12 ounces by weight of FlumiGard® WDG per acre, you will simply apply 12 fluid ounces of FlumiGard® SC per acre. It's that easy!

Q: What aquatic weeds is FlumiGard® SC labeled to address?

Weeds Controlled with Surface Application	
Alligator Weed	*Alternanthera philoxeroides*
Duckweed*	*Lemna spp.*
Frog's-bit	*Limnobium spongia*
Mosquito Fern	*Azolla spp.*
Water Fern	*Salvinia spp.*
Water Lettuce	*Pistia stratiotes*
Watermeal*	*Wolffia spp.*
Water Pennywort	*Hydrocotyle spp.*
Filamentous algae	*Pithophara*
Filamentous algae	*Cladophora*

***Complete coverage of Duckweed and Watermeal is necessary to achieve control**

Weeds Controlled with Subsurface Application	
Coontail	*Ceratophyllum demersum*
Duckweed	*Lemna spp.*
Fanwort	*Cabomba caroliniana*
Hydrilla	*Hydrilla verticillata*
Hygrophila	*Hygrophila polysperma*
Naiad, Southern	*Najas guadalupensis*
Pondweed, Curlyleaf	*Potamogeton crispus*
Pondweed, Sago	*Potamogeton pectinatus*
Pondweed, Variable-Leaf	*Potamogeton diversifolius*
Water Fern	*Salvinia spp.*
Water Lettuce	*Pistia stratiotes*
Watermeal	*Wolffia spp.*
Watermilfoil, Eurasian	*Myriophyllum spicatum*
Watermilfoil, Variable-Leaf	*Myriophyllum heterophyllum*