



# SEMERA™

## 51.0% WDG

### SAFETY DATA SHEET

EMERGENCY CALL: 1-800-424-9300 (CHEMTREC)

#### 1. IDENTIFICATION

**PRODUCT NAME:** Semera 51.0% WDG  
**DESCRIPTION:** Solid Herbicide  
**EPA REG. NO.:** 91234-129  
**COMPANY IDENTIFICATION:** Atticus, LLC  
 940 NW Cary Parkway, Suite 200  
 Cary, NC 27513

#### 2. HAZARD IDENTIFICATION

##### WARNING

Suspected of damaging fertility or the unborn child (H361)  
 Causes eye irritation (H320)  
 Harmful if inhaled (H332)  
 May be harmful if swallowed (H313)  
 Very toxic to aquatic life with long lasting effects (H400+H410)



##### HAZARD CLASSIFICATION

Health Hazards	Category	Physical Hazards	Category
Reproductive toxicity	2	None	--
Eye irritation	2B		
Acute toxicity, inhalation	4	<b>Environmental Hazards</b>	<b>Category</b>
Acute toxicity, dermal	5	Hazardous to the Aquatic Environment – short-term	1
		Hazardous to the Aquatic Environment – long-term	1

##### HAZARDS NOT REQUIRING CLASSIFICATION

Do not mix or allow coming in contact with oxidizing agents. Hazardous chemical reaction may occur.

##### PRECAUTIONARY STATEMENTS

Obtain, read and follow all safety instructions before use. Avoid breathing dust. Wash hands and exposed skin thoroughly after handling. Do not touch eyes. Use only outdoors or in a well-ventilated area. Wear protective gloves and other protective clothing as described in Section 8. (P203+P261+P264+P265+P271+P280)

**IF EXPOSED OR CONCERNED:** Get medical advice. (P318)

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical help. (P305+P351+P338+ P337+P317)

**IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Get medical help. (P304+P340+P317)

**IF ON SKIN:** Get medical help. (P302+P317)

Store locked up. (P405)

Avoid release to the environment not in accordance with the product label. Collect spillage (P273 +P391)

Dispose of contents / container in accordance with local regulations. Refer to the product label for specific disposal instructions. (P501)

#### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Common Name	Chemical Name	CAS #	Composition
Flumioxazin	1H-Isoindole-1,3(2H)-dione, 4,5,6,7-tetrahydro-2-(7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl)-	103361-09-7	51%
Kaolin clay	N/A	1332-58-7	12-17 %
Sodium lauryl sulfate	N/A	151-21-3	1-4 %

**Note:** Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

#### 4. FIRST AID MEASURES

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at 1-844-685-9173 for emergency medical treatment information.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

#### 5. FIREFIGHTING MEASURES

**Fire and Explosion Hazards:** Can release irritating and toxic gases due to thermal decomposition or combustion.

**Extinguishing Medium:** Water spray, foam, dry chemical, or carbon dioxide (CO<sub>2</sub>).

**Fire Fighting Equipment:** Firefighters should be equipped with full protective clothing and self-contained positive pressure breathing apparatus.

**Fire Fighting Instructions:** Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Dike and collect water used to fight fire to prevent environmental damage due to run off. Minimize use of water to prevent environmental contamination.

**Hazardous Combustion Products:** None known.

**NFPA Ratings:** Health – 1 / Flammability – 1 / Reactivity - 0

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Isolate area and keep unnecessary and unprotected personnel from entering. Wear suitable personal protective clothing and equipment as described in Section 8 of this document.

**Environmental Precautions:** Prevent material from entering sewers, waterways, or low areas.

**Spill Cleanup:** Clean up spills immediately. Reduce airborne dust and avoid breathing dust. Wear appropriate safety equipment. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Consult Section 8 of this document for additional precautions.

**SMALL SPILL:** Vacuum or sweep up material and place in a container for reuse or disposal.

**LARGE SPILL:** Avoid creating dust cloud. Vacuum or sweep up material and place in a container for reuse or disposal. Pick up wash liquid with additional absorbent for disposal. After removal, flush contaminated area thoroughly with water.

## 7. HANDLING AND STORAGE

**Handling:** Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling concentrate. Avoid contact with skin, eyes, or clothing. Avoid breathing dust and spray mist.

**Storage:** Store in a tightly closed container in a cool, dry place. Store in original container and out of reach of children, preferably in a locked storage area.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

COMPONENT	OSHA	ACIGH
Flumioxazin	None	None
Kaolin clay	15 mg/m <sup>3</sup> TWA 5 mg/m <sup>3</sup> TWA	2 mg/m <sup>3</sup> TWA*
Sodium lauryl sulfate	None	None
Other	None	None

### \*Respirable fraction

**Engineering Controls:** Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**Protective Clothing:** Applicators and other handlers must wear long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride; and shoes plus socks.

**General:** Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Use this product in accordance with its label.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** light brown granule

**Odor:** slight

**Melting / Freezing point:** no data available

**Boiling Point / Boiling Range:** no data available

**Flammability:** not applicable

**Flammability Limits (upper/lower):** no data available

**Flash Point:** no data available

**Auto-ignition Temperature:** no data available

**Decomposition Temperature:** no data available

**pH:** no data available

**Kinematic Viscosity:** no data available

**Solubility:** dispersible in water

**Partition coefficient:** no data available

**Vapor Pressure:** no data available

**Relative Density:** 30.8 lbs./ft<sup>3</sup>

**Vapor Density:** no data available

**Particle Characteristics:** no data available

## 10. STABILITY AND REACTIVITY

**CONDITIONS TO AVOID:** Avoid heat of open flame and high temperatures. Keep containers sealed.

**CHEMICAL STABILITY:** Stable at normal temperatures and storage conditions.

**INCOMPATIBILITY WITH OTHER MATERIALS:** Oxidizing materials. Strong acids or bases.

**HAZARDOUS DECOMPOSITION PRODUCTS:** May produce gases such as nitrogen compounds, fluorine compounds, or oxides of carbon and nitrogen.

**HAZARDOUS POLYMERIZATION:** Polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

Information presented below is from testing done on an identical or substantially similar product:

**ORAL TOXICITY (rat LD<sub>50</sub>):** > 5,000 mg/kg

**DERMAL TOXICITY (rabbit LD<sub>50</sub>):** >2,000 mg/kg

**INHALATION TOXICITY (rat LC<sub>50</sub>):** >0.97 mg/L (4-hour)

**EYE IRRITATION:** Minimal irritation

**SKIN IRRITATION:** Minimal irritation

**SKIN SENSITIZATION:** Not a contact sensitizer (Guinea pig)

**CARCINOGENICITY:**

**NTP:** Not listed

**IARC:** Not listed

**EPA:** Not listed

**DEVELOPMENTAL TOXICITY:** Flumioxazin Technical produces developmental toxicity in rats in the absence of maternal toxicity at doses of 30 mg/kg/day by the oral route and 300 mg/kg/day by the dermal route. The developmental effects noted consisted primarily of decreased number of live fetuses and fetal weights, cardiovascular abnormalities, wavy ribs and decreased number of ossified sacrococcygeal vertebral bodies. The developmental lowest no-observable-effect-level (NOEL) in the rat oral and dermal developmental toxicity studies were 10 and 100 mg/kg/day, respectively. The response in rabbits was different from that in rats. No developmental toxicity was noted in rabbits at doses up to 3,000 mg/kg/day, a dose well above the maternal NOEL of 1,000 mg/kg/day. Mechanistic studies indicate that the effects seen in the rat are highly unlikely to occur in the human and that flumioxazin would not be a developmental toxicant in the human.

**SUBCHRONIC TOXICITY:** Effects from Flumioxazin Technical noted in rats following subchronic exposures at high dose levels were hematotoxicity including anemia, and increases in liver, spleen, heart, kidney and thyroid weights. Effects in dogs at high dose levels included a slight prolongation in activated partial thromboplastin time, increased cholesterol and phospholipid, elevated alkaline phosphatase, increased liver weights and histological changes in the liver. The lowest no-observable-effect-level (NOEL) in subchronic studies was 30 ppm in the three-month toxicity study in rats.

**CHRONIC/CARCINOGENICITY:** In a one year dog feeding study, Flumioxazin Technical produced treatment-related changes in blood chemistry and increased liver weights at 100 and 1,000 mg/kg/day. Minimal treatment-related histological changes were noted in the livers of animals in the 1,000 mg/kg/day group. Based on these data the lowest no-observable-effect-level (NOEL) is 10 mg/kg/day. Dietary administration of Flumioxazin Technical over 18 months produced liver changes in mice of the 3,000 and 7,000 ppm groups. There was no evidence of any

treatment-related oncogenic effect. The lowest no-observable-effect-level (NOEL) for this study is 300 ppm. Dietary administration of Flumioxazin Technical for 24 months produced anemia and chronic nephropathy in rats of the 500 and 1,000 ppm groups. The anemia lasted through the treatment period, however, it was not progressive nor aplastic in nature. No evidence of an oncogenic effect was observed. The lowest no-observable-effect-level (NOEL) for this study is 50 ppm.

**MUTAGENIC TOXICITY:** Flumioxazin Technical was not mutagenic in most in vitro assays: gene mutation and a chromosome aberration assay in the absence of metabolic activation. In three in vivo assays, chromosome aberration, unscheduled DNA synthesis and micronucleus assay, Flumioxazin Technical was not mutagenic. The only positive response was observed in the in vitro chromosome aberration assay in the presence of metabolic activation. Overall, Flumioxazin Technical does not present a genetic hazard.

## 12. ECOLOGICAL INFORMATION

This pesticide is toxic to plants and must be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

The following information is for the active ingredient, Flumioxazin:

### AQUATIC TOXICITY

Rainbow trout (96 h LC<sub>50</sub>): 2.3 ppm  
Rainbow trout (NOAEC): 0.0077 ppm  
Daphnia (96 h LC<sub>50</sub>): 5.5 ppm  
Daphnia (NOAEC): 0.028 ppm  
Mysid (96 h LC<sub>50</sub>): 0.23 ppm  
Blue-green Algae (72 h EC<sub>50</sub>): 0.0083 ppm  
Blue-green Algae (72 h NOEC): 0.000022 ppm

### AVIAN TOXICITY

Bobwhite quail (Oral, LD<sub>50</sub>): >2,250 ppm  
Bobwhite quail/ Mallard duck (Subacute dietary LC<sub>50</sub>): >5,620 ppm

### BEE TOXICITY

Contact (LC<sub>50</sub>): >105 µg/bee

**FATE:** Degrades rapidly in soil and water. Leaching potential is low.

## 13. DISPOSAL CONSIDERATIONS

**PESTICIDE DISPOSAL:** Excess pesticide spray, mixture, or rinsate resulting from the use of this product can be disposed of onsite according to label instructions or at an approved waste disposal facility. Improper disposal is a violation of Federal Law.

**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. See container labeling for complete disposal instructions.

## 14. TRANSPORT INFORMATION

### US-DOT:

Not regulated

### IMDG:

#### Containers < 11 lbs. (5 kg):

Not regulated

#### Containers > 11 lbs. (5 kg):

Shipped internationally by vessel: UN3077, Environmentally hazardous substance, solid, N.O.S. (contains Flumioxazin), 9, PG III, Marine Pollutant

### IATA:

Shipped internationally by air: UN3077, Environmentally hazardous substance, solid, N.O.S. (contains Flumioxazin), 9, PG III, Marine Pollutant

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer

service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

## 15. REGULATORY INFORMATION

### FIFRA -

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the hazard information as required on the pesticide label:

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION.** Harmful if absorbed through the skin or inhaled. Avoid contact with skin, eyes, or clothing. Causes moderate eye irritation. Avoid breathing dust and spray mist.

### ENVIRONMENTAL HAZARDS

A319.04 is toxic to non-target plants and aquatic invertebrates. Do not apply to water except as specified on the label, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to non-target plants and aquatic organisms in neighboring areas, if not used in accordance with the label directions. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

This pesticide is toxic to plants and must be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Under some conditions A319.04 may have a potential to run-off to surface water or adjacent land.

Where possible, use methods which reduce soil erosion, such as no-till, limited-till and contour plowing; these methods also reduce pesticide run-off. Use vegetation filter strips along rivers, creeks, streams, wetlands, or on the downhill side of fields, where run-off could occur to minimize water run-off.

### PHYSICAL OR CHEMICAL HAZARDS

Do not mix or allow coming in contact with an oxidizing agent. Hazardous chemical reaction may occur.

All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The regulatory information presented below is pertinent only when this product is handled outside of the normal use and application as a pesticide. This product is excluded from listing requirements under EPA/TSCA.

### SARA Title III - Section 302 Extremely Hazardous Substances

Not listed

### SARA Title III - Section 311/312 Hazard Categories

Immediate (Acute), Delayed (Chronic)

### SARA Title III - Section 312 Threshold Planning Quantity

The threshold planning quantity (TPQ) for this product treated as a mixture is 10,000 lbs. This product contains no ingredients with a TPQ of less than 10,000 lbs.

### SARA Title III - Section 313 Reportable Ingredients

None

### CERCLA Reportable Quantity (RQ) -

Not listed

### CALIFORNIA PROP 65 STATUS -

This product does not contain any chemical known to the state of California to cause cancer or reproductive harm.

### CANADA -

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

## 16. OTHER INFORMATION

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

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