

Safety Data Sheet

US Hazard Communication Standard 2024 (29 CFR 1910.1200)

Initial Preparation Date: 01.16.2026

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SECTION 1: Identification

Product Identifier

Product Name: Semera 51.0% WDG

Product code: EPA Reg. No.: 91234-129

Recommended Use of the Chemical and Restrictions on Use:

Recommended Uses: Water dispersible granule herbicide

Restrictions on Use: Any use other than specified above

Manufacturer or Supplier Details

Manufacturer:

United States

Atticus, LLC
940 NW Cary Parkway
Suite 200

Cary, North Carolina 27513
(984) 465-4754



Emergency Telephone Number:

For Chemical Emergency

CHEMTREC

1-800-424-9300 (24 hours)

+1-703-527-3887 (24 hours)

Collect calls accepted

For Emergency Medical Treatment Information

SAFETYCALL

1-844-685-9173 (24 hours)

SECTION 2: Hazard Identification

Classification of the chemical in accordance with paragraph (d) of § 1910.1200:

Acute toxicity (inhalation), category 4

Reproductive toxicity, category 2

Specific target organ toxicity - repeated exposure, category 2

Acute aquatic hazard, category 1

Chronic aquatic hazard, category 1

Label elements

Hazard Symbol(s):



Signal Word: Warning

Hazard statement(s):

H332 Harmful if inhaled

H361 Suspected of damaging fertility or the unborn child

H373 May cause damage to organs through prolonged or repeated exposure

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects

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Precautionary Statement(s):

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read carefully and follow all instructions.
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P280 Wear protective gloves, protective clothing and eye protection.
- P260 Do not inhale dust.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release to the environment.
- P308+P313 If exposed or concerned: Get medical advice/attention.
- P314 Get medical advice/attention if you feel unwell.
- P312 Call a poison center/doctor if you feel unwell.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P391 Collect spillage.
- P405 Store locked up.
- P501 Dispose of contents and container in accordance with federal, state and local regulations.

Hazards Not Otherwise Classified: None

SECTION 3: Composition/Information on Ingredients

Identification	Name	Weight %
CAS Number: 103361-09-7	Flumioxazin	51

Additional information:

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

SECTION 4: First Aid Measures

Description of Necessary Measures

General Notes:

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. For Chemical Emergency: spill, leak, fire, exposure or accident, call CHEMTREC day or night within USA and Canada at 1-800-424-9300 or +1-703-527-3887 (collect calls accepted) Show this Safety Data Sheet to the doctor in attendance. Take precautions to ensure your own safety before attempting rescue. Wear appropriate safety eyewear, gloves, protective clothing and respiratory protection to prevent exposure. See Section 8 of this SDS for personal protective equipment recommendations. Do not use the mouth to mouth method if victim has ingested or inhaled the product. Give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper device

After Inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If symptoms develop or persist, seek medical advice/attention

After Skin Contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention

After Eye Contact:

Rinse eyes with plenty of water for several minutes. Remove contact lenses if present and easy to do

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so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention

After Ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention

Most Important Symptoms and Effects, Both Acute and Delayed

Acute Symptoms and Effects:

Acute inhalation exposure may lead to dizziness, drowsiness, headache, breathing difficulties, nausea, vomiting, abdominal pain, and lowering of consciousness. Adverse effects are dependent on exposure (dose, concentration, contact time)

Delayed Symptoms and Effects:

Long term exposure may affect fertility. Symptoms include, but are not limited to: menstrual problems, altered sexual behavior/fertility/ and pregnancy outcome. Long term exposure may also affect development of the unborn child. Symptoms include, but are not limited to: intrauterine growth retardation, pre-term birth, birth defects and postnatal death
May cause damage to organs through prolonged or repeated exposure. Effects are dependent on exposure (dose, concentration, contact time)
Symptoms of exposure may be delayed

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

Immediate Medical Attention:

No additional information.

Special Treatment:

No additional information.

Notes for the Doctor:

Treat symptomatically

SECTION 5: Firefighting Measures

Extinguishing Media

Suitable Extinguishing Media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam

Unsuitable Extinguishing Media:

Do not use water jet

Specific Hazards Arising From The Chemical:

Thermal decomposition may produce irritating/toxic fumes/gases
Hazardous combustion products may include nitrogen compounds, fluorine compounds, or oxides of carbon and nitrogen

Special Protective Equipment and Precautions for Fire-Fighters

Special Protective Equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode

Special precautions

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution

SECTION 6: Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures:

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Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Do not get on skin, eyes or on clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling. Remove contaminated clothing and launder before reuse

Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided

Methods and Material for Containment and Cleaning Up:

Harmful if inhaled. Put on appropriate personal protective equipment, including a self-contained breathing apparatus (see Section 8) before entering area of spill or leak. Avoid breathing dust, mist, fumes, vapors or spray. Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13)

SECTION 7: Handling and Storage

Precautions for Safe Handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

Conditions for Safe Storage, Including Any Incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

SECTION 8: Exposure Controls/Personal Protection

Only those substances with limit values have been included below.

Occupational Exposure Limit Values:

No occupational exposure limits noted for the ingredient(s).

Biological Limit Values:

No biological exposure limits noted for the ingredient(s).

Information on Monitoring Procedures:

Not determined or not applicable.

Appropriate Engineering Controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

Individual Protection Measures, Such as Personal Protective Equipment

Eye and Face Protection:

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin and Body Protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by

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recognized national standards (or equivalent).

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

General Hygienic Measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

SECTION 9: Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical state	Granule
Color	Light yellow
Odor (includes odor threshold)	Odorless
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	Not determined or not available.
Flammability	Not determined or not available.
Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Flash point	Not determined or not available.
Auto-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
pH	6 - 7
Kinematic viscosity	Not determined or not available.
Solubilities	Soluble in water
Partition coefficient (n-octanol/water)	Not determined or not available.
Vapor pressure (includes evaporation rate)	Not determined or not available.
Density and/or relative density	0.55 - 0.65 g/mL (tap)
Relative vapor density	Not determined or not available.
Particle characteristics	Not determined or not available.

Other Information

No additional information.

SECTION 10: Stability and Reactivity

Reactivity:

Not reactive under recommended handling and storage conditions.

Chemical Stability:

Stable under recommended handling and storage conditions.

Possibility of hazardous reactions, including those associated with foreseeable emergencies:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

Conditions to Avoid:

Avoid confined spaces, extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

Incompatible Materials:

Strong oxidizing agents

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Hazardous Decomposition Products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological Information

Acute Toxicity

Assessment:

Harmful if inhaled.

Product Data:

Route	Result
Oral	LD50 Rat: > 5,000 mg/kg
Dermal	LD50 Rat: > 2,000 mg/kg
Inhalation	LC50 Rat: > 2.18 mg/L (4 hr)

Substance Data:

Name	Route	Result
Flumioxazin	oral	LD50 Rat: > 5,000 mg/kg
	inhalation	LC50 Rat: > 3.93 mg/L (4 hr [dust])
	dermal	LD50 Rat: > 2,000 mg/kg

Skin Corrosion/Irritation

Assessment: Based on available data, the classification criteria are not met.

Product Data:

Minor irritation

Substance Data:

Name	Result
Flumioxazin	Non-irritating

Serious Eye Damage/Irritation

Assessment: Based on available data, the classification criteria are not met.

Product Data:

Minor irritation

Substance Data:

Name	Result
Flumioxazin	Non-irritating

Respiratory or Skin Sensitization

Assessment: Based on available data, the classification criteria are not met.

Product Data:

Not a dermal sensitizer

Substance Data:

Name	Result
Flumioxazin	Not a dermal sensitizer

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product Data: No data available.

Substance Data:

Name	Species	Result
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Name	Species	Result
Flumioxazin		EPA: Not likely to be carcinogenic in humans

International Agency for Research on Cancer (IARC):

Name	Classification
Flumioxazin	Not Applicable

National Toxicology Program (NTP):

Name	Classification
Flumioxazin	Not Applicable

OSHA Carcinogens: Not applicable

Germ Cell Mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product Data:

No data available.

Substance Data:

Name	Result
Flumioxazin	No evidence of mutagenicity

Reproductive Toxicity

Assessment:

Suspected of damaging fertility or the unborn child.

Product Data:

No data available.

Substance Data:

Name	Result
Flumioxazin	Suspected of damaging the unborn child.

Specific Target Organ Toxicity (Single Exposure)

Assessment: Based on available data, the classification criteria are not met.

Product Data:

No data available.

Substance Data: No data available.

Specific Target Organ Toxicity (Repeated Exposure)

Assessment:

May cause damage to organs through prolonged or repeated exposure.

Product Data:

No data available.

Substance Data:

Name	Result
Flumioxazin	In 13-week study on rats, hematological effects consistent with anemia and altered bone marrow response were observed in males and females.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product Data:

No data available.

Substance Data: No data available.

Information on Likely Routes of Exposure:

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No data available.

Symptoms Related to the Physical, Chemical, and Toxicological Characteristics:

No data available.

Interactive effects:

No additional information.

Other Information:

Information in this section is provided from a similar formulation.

SECTION 12: Ecological Information

Ecotoxicity

Acute (Short-Term) Toxicity

Assessment:

Very toxic to aquatic life.

Product Data: No data available.

Substance Data:

Name	Result
Flumioxazin	Fish LC50 Rainbow trout: 2.3 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: 5.5 mg/L (48 hr [immobility])
	Aquatic Plants EC50 Raphidocelis subcapitata: 0.00102 mg/L (120 hr [population])

Chronic (Long-Term) Toxicity

Assessment:

Very toxic to aquatic life with long lasting effects.

Product Data: No data available.

Substance Data:

Name	Result
Flumioxazin	Aquatic Invertebrates NOEC Daphnia magna: 0.026 mg/L (21 d [reproduction])

Persistence and Degradability

Product Data: No data available.

Substance Data: No data available.

Bioaccumulative Potential

Product Data: No data available.

Substance Data:

Name	Result
Flumioxazin	The substance is not expected to bioaccumulate (BCF: 18).

Mobility in Soil

Product Data: No data available.

Substance Data:

Name	Result
Flumioxazin	The substance is slightly mobile, therefore, adsorption to soil and sediment is expected (Koc: 581 - 2000).

Results of PBT and vPvB assessment

Product Data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance Data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

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vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Other Adverse Effects: No additional information.

SECTION 13: Disposal Considerations

Disposal Methods:

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Do not contaminate water, food, or feed by storage or disposal. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. Dispose of excess or waste pesticide by use according to label directions, or contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Contaminated packaging:

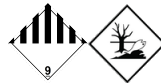
CONTAINER DISPOSAL: Nonrefillable and refillable containers. Refer to the product label for specific container disposal instructions.

SECTION 14: Transport Information

United States Transportation of Dangerous Goods (49 CFR DOT)

UN Number	Not regulated
UN Proper Shipping Name	Not regulated
UN Transport Hazard Class(es)	None
Packing Group	None
Environmental Hazards	None
Special Precautions for User	None
Additional Information	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.

International Maritime Dangerous Goods (IMDG)

UN Number	UN3077
UN Proper Shipping Name	Environmentally hazardous substance, solid, N.O.S. (flumioxazin)
UN Transport Hazard Class(es)	9 
Packing Group	III
Environmental Hazards	Marine Pollutant
Special Precautions for User	None
Excepted Quantities	< 11 lbs. (5 kg) in strong outer packaging

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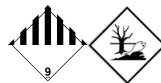
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Additional Information	This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional 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.
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International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN Number	UN3077
UN Proper Shipping Name	Environmentally hazardous substance, solid, N.O.S. (flumioxazin)
UN Transport Hazard Class(es)	9 
Packing Group	III
Environmental Hazards	Marine Pollutant
Special Precautions for User	None
Excepted Quantities	< 11 lbs. (5 kg) in strong outer packaging
Additional Information	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.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Bulk Name	Not Applicable
Ship Type	Not Applicable
Pollution Category	Not Applicable

SECTION 15: Regulatory Information

United States Regulations

Inventory Listing (TSCA): All ingredients are listed-active or exempt.

Significant New Use Rule (TSCA Section 5): None of the ingredients are listed.

Export Notification under TSCA Section 12(b): None of the ingredients are listed.

SARA Section 302 Extremely Hazardous Substances: None of the ingredients are listed.

SARA Section 313 Toxic Chemicals: None of the ingredients are listed.

CERCLA: None of the ingredients are listed.

RCRA: None of the ingredients are listed.

Section 112(r) of the Clean Air Act (CAA): None of the ingredients are listed.

Massachusetts Right to Know: None of the ingredients are listed.

New Jersey Right to Know: None of the ingredients are listed.

New York Right to Know: None of the ingredients are listed.

Pennsylvania Right to Know: None of the ingredients are listed.

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California Proposition 65: None of the ingredients are listed.

Additional information: FIFRA: All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act (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 regulatory information presented outside of this FIFRA section is pertinent only when this product is handled outside of normal use and application as a pesticide. This product is excluded from listing requirements under EPA/TSCA. The following is the hazard information as required on the pesticide label:; PRECAUTIONARY STATEMENTS, HAZARDS TO HUMANS AND DOMESTIC ANIMALS, CAUTION, Harmful if inhaled or absorbed through the skin., Causes moderate eye irritation., Avoid breathing dust and spray mist., Avoid contact with skin, eyes or clothing., ENVIRONMENTAL HAZARDS, Toxic to non-target plants., Toxic to aquatic invertebrates., Drift or runoff may be hazardous to non-target plants and aquatic organisms in neighboring areas., PHYSICAL OR CHEMICAL HAZARDS, Do not mix or allow coming in contact with oxidizing and reducing agents. A hazardous chemical reaction may occur.

SECTION 16: Other Information

Disclaimer:

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. To the extent consistent with applicable law, neither Atticus, LLC nor Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ATTICUS, LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ATTICUS, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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End of Safety Data Sheet