

# SAFETY DATA SHEET

This Safety Data Sheet (SDS) complies with the requirements of the U.S. Federal Occupational Safety and Health Administration Hazard Communication 29 CFR 1910.1200 (g)(2).

## Frigate LW 44% SC

Version      Revision Date:

1.0            06/10/2024

### 1. IDENTIFICATION OF THE PRODUCT & COMPANY

**Product Name:** Frigate LW 44% SC

**Product Code:** EPA Reg. No. 103087-1

**Intended Use:** Herbicide

**Company Identification:**

Longwind Cropsience USA LLC.  
1207 DELAWARE AVE, SUITE 886, WILMINGTON,  
DE 19806, UNITED STATES

**Emergency Information:** In the event of a leak, fire or medical emergency involving a human or animal please call INFOTRAC: 1-800-535-5053 or Outside the USA and Canada at 1-352-323-3500, 24/7/365.

### 2. HAZARD IDENTIFICATION

#### GHS-US classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Reproductive toxicity	Category 2
Hazardous to aquatic environment, acute	Category 1
Hazardous to aquatic environment, chronic	Category 1

#### Required Label Elements

**Signal Word:** WARNING

**Pictograms:**

**Hazard Statements:**

Harmful if inhaled  
Suspected of damaging fertility or the unborn child  
Very toxic to aquatic life  
Very toxic to aquatic life with long lasting effects

**Precautionary Statements:****Prevention:**

Do not breathe mists, vapors or spray.  
Use only outdoors or in a well-ventilated area.  
Obtain, read and follow all safety instructions before use.  
Wear protective gloves/protective clothing/eye protection.  
Avoid release to the environment.

**Response:**

IF EXPOSED OR CONCERNED: Get medical advice/attention.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
Get medical help if you feel unwell.

**Storage:**

Store locked up

**Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. **COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS Number	Active ingredient	%
Flumioxaziin	103361-09-7	×	42.68-45.32
Propylene Glycol	57-55-6		3-6
Other ingredient	n/a		45-55

### 4. **FIRST AID MEASURES**

First Aid responders should use protective equipment in Section 8 if there is a potential for exposure to product.

**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.

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

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by poison control center or doctor. Do not give any liquid to a person. Do not give anything by mouth to an unconscious person.

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

**NOTE TO PHYSICIAN:** None

Have a product container or label with you when calling a poison control center or doctor or going for treatment.

## 5. **FIRE FIGHTING MEASURES**

**Extinguishing Media:** Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.

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

**FIRE FIGHTING INSTRUCTIONS:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear. 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.

## 6. **ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

**Environmental Precautions:** Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

**Methods for Containment:** Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

**Methods for Cleanup and Disposal:** Pump free liquid into an appropriate container. Absorb residual with inert absorbent material. Wash entire spill area with a detergent slurry, absorb and sweep into container for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

## 7. **HANDLING AND STORAGE**

**Keep out of reach of children!**

**HANDLING:** Avoid contact with eyes, skin or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and change into clean clothing.

**STORAGE:** Keep pesticide in original container. Store in a cool, dry, secure place. Do not put formulation or dilute spray solution into food or drink containers. Do not contaminate food or foodstuffs. Do not store or transport near feed or food. Not for use or storage in or around the home. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

## 8. **EXPOSURE CONTROL/PERSONAL PROTECTION**

### **EXPOSURE LIMITS**

Chemical name	ACGIH Exposure	OSHA Exposure	Other Exposure
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	Limits	Limits	Limits (Specify)
Propylene glycol	None	None	TWA 10mg/m3 (US WEEL)

**ENGINEERING CONTROLS:** Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

**Eye/Face Protection:** To avoid contact with eyes, wear goggles or safety glasses.

**Skin Protection:** To avoid contact with skin wear long-sleeved shirt and long pants, shoes plus socks, and chemical-resistant gloves made of any waterproof material. Washing facilities should be readily accessible to the work area.

**Respiratory Protection:** Not normally required. If vapors or mists or dusts exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

**General Hygiene Considerations:** Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

## 9. **PHYSICAL AND CHEMICAL PROPERTIES**

Color: Off-white  
Physical state: Opaque viscous liquid  
Odor: Faint characteristic odor  
Melting/Freezing Point: Not determined  
Suspension: ≥90%  
pH: 5-8  
Density or Specific Gravity: 1.138 g/mL at 20° C  
Solubilities: Not determined  
Flash Point: >93° C  
Wet sieve test through 75 µm test sieve: ≥98%  
Persistence foaming: ≤60ml  
Storage stability: Stable

\*Listed density is an approximate value and does not necessarily represent that of a specific batch

## 10. **STABILITY AND REACTIVITY**

**Product reactivity:** Not reactive

**Chemical stability:** Stable under normal use and storage conditions.

**Hazardous reactions/polymerization:** Product will not undergo polymerization.

**Conditions to Avoid:** Avoid heat of open flame and high temperatures. Keep containers sealed.

**Incompatible 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.

## 11. **TOXICOLOGICAL INFORMATION**

### **Acute Toxicity**

The following information is from this formulation or from a similar formulation:

Oral Toxicity LD 50 (rats)	>5000 mg/kg
Dermal Toxicity LD 50 (rabbits)	>5000 mg/kg
Inhalation Toxicity LC 50 (rats)	>2.10 mg/L (4 h)
Eye Irritation (rabbits)	Non-irritating
Skin Irritation (rabbits)	Slightly irritating
Skin Sensitization (guinea pigs)	Non-sensitizer

#### **TOXICITY OF FLUMIOXAZIN TECHNICAL:**

**SUBCHRONIC:** 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 the NOEL is 10 mg/kg/day. Dietary administration of Flumioxazin Technical for 18 months in mice there was no evidence of any treatment-related oncogenic effect. The NOEL for this study is 300 ppm. Dietary administration of Flumioxazin Technical for 24 months in rats no evidence of an oncogenic effect was observed. The NOEL for this study is 50 ppm.

**DEVELOPMENTAL TOXICITY:** Flumioxazin Technical - The developmental NOEL in the rat oral and dermal developmental toxicity studies were 10 and 100 mg/kg/day, respectively. No developmental toxicity was noted in rabbits at doses up to 3000 mg/kg/day, a dose well above the maternal NOEL of 1000 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.

**REPRODUCTION:** Reproductive toxicity was observed in F1 males, P1 females and F1 females at 300 ppm Flumioxazin Technical, the highest dose tested and a dose that also produced signs of systemic toxicity. Toxicity was also observed in the F1 and F2 offspring at doses of 200 ppm and greater.

**MUTAGENICITY:** Flumioxazin Technical was not mutagenic in most in vitro assays: gene mutation and a chromosome aberration assay in the absence of metabolic activation. Overall, Flumioxazin Technical does not present a genetic hazard.

## **12. ECOLOGICAL INFORMATION**

#### **AVIAN TOXICITY:**

Based upon EPA designation, Flumioxazin Technical is practically non-toxic to avian species. The following results were obtained from studies with Flumioxazin

Technical:

Oral LD50 Bobwhite Quail: greater than 2,250 ppm

Dietary LC50 Bobwhite Quail: greater than 5,620 ppm

Dietary LC50 Mallard Duck: greater than 5,620 ppm

Flumioxazin Technical in the diet. In mallard ducks, a slight, but not statistically significant reduction in hatchlings and 14-day old survivors was observed. Based on a possible, slight effect on egg production at 500 ppm, the NOEL for this study was 250 ppm.

#### **AQUATIC ORGANISM TOXICITY:**

Based upon EPA designation, Flumioxazin Technical is slightly to moderately toxic to freshwater fish; moderately toxic to freshwater invertebrates; moderately toxic to estuarine/marine fish and moderately to highly toxic to estuarine/marine invertebrates, based on the following tests:

96-hour LC50 Rainbow Trout: 2.3 mg/L  
96-hour LC50 Bluegill Sunfish: greater than 21 mg/L  
48-hour LC50 Daphnia magna: greater than 5.5 mg/L  
96-hour LC50 Sheepshead Minnow: greater than 4.7 mg/L  
96-hour (Shell deposition) EC50 Eastern Oyster: 2.8 mg/L  
96-hour LC50 Mysid Shrimp: 0.23 mg/L  
Fish early life-stage (Rainbow Trout): NOEC >7.7 µg/L, <16 µg/L  
Chronic toxicity (Mysid Shrimp): NOEC >15 µg/L, <27 µg/L  
Chronic toxicity (Daphnia magna): NOEC >52 µg/L, <99 µg/L

#### **OTHER NON-TARGET ORGANISM TOXICITY:**

Flumioxazin Technical is practically non-toxic to bees. The acute contact LC50 in bees was greater than 105 µg/bee.

### **13. DISPOSAL CONSIDERATIONS**

**PRODUCT DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available; otherwise dispose of in a sanitary landfill or incineration, or if allowed by State and local authorities, by burning. If burned, stay out of the smoke.

**DISPOSAL METHODS:** Check government regulations and local authorities for approved disposal of this material. Dispose of in accordance with applicable laws and regulations.

### **14. TRANSPORTATION INFORMATION**

**DOT (ground) SHIPPING NAME:** Not regulated for domestic ground transport by US DOT.

**EMERGENCY RESPONSE :** Not applicable

**ICAO/IATA SHIPPING NAME:** UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Flumioxazin), 9, III, Marine Pollutant

**REMARKS:** Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations -- see IATA Special Provision A197

**IMDG SHIPPING NAME:** UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Flumioxazin), 9, III, Marine Pollutant

**REMARKS:** Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations - see IMDG 2.10.2.7

### **15. REGULATORY INFORMATION**

#### **EPA-FIFRA LABEL INFORMATION**

Pesticide products in the U.S. are registered by the EPA under FIFRA and are subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required by OSHA GHS for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the hazard information as required on

the FIFRA pesticide label:

**EPA-FIFRA SIGNAL WORD: CAUTION**

- Harmful if inhaled.
- Avoid breathing vapors or spray.
- Avoid contact with eyes, skin and clothing.
- Keep out of reach of children.

**PESTICIDE REGULATIONS:** All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

**U.S. FEDERAL REGULATIONS:** Ingredients in this product are reviewed against an inclusive list of federal regulations. Therefore, the user should consult appropriate authorities. The federal regulations reviewed include: Clean Water Act, SARA, CERCLA, RCRA, DOT, TSCA and OSHA. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

**STATE REGULATIONS:** Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities.

## **16. OTHER INFORMATION**

This SDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of the how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made the user should contact the company.