Safety Data Sheet - GHS

1. IDENTIFICATION: CHEMICAL PRODUCT AND COMPANY

PRODUCT NAME: SureGuard® Xtra Herbicide
EPA REGISTRATION NUMBER: 59639-237
VC NUMBER(S): None
SYNONYM(S): None
PRODUCT DESCRIPTION: Herbicide

MANUFACTURER/DISTRIBUTOR
VALENT U.S.A. LLC
P.O. Box 5075
4600 Norris Canyon Road
San Ramon, CA 94583

EMERGENCY TELEPHONE NUMBERS
HEALTH EMERGENCY OR SPILL (24 hr):
(800) 892-0099
TRANSPORTATION (24 hr.): CHEMTREC
(800) 424-9300 or (202) 483-7616

PRODUCT INFORMATION
AGRICULTURAL PRODUCTS: (800) 682-5368

2. HAZARDS IDENTIFICATION

Classification - (per U.S. OSHA 29 CFR 1910.1200 (Hazcom 2012))

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Signal Word

WARNING

Hazard statements
Harmful if inhaled
May damage fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure
(nervous system, liver, kidney, heart, urinary bladder, bone marrow)

Precautionary statements

Prevention
Do not breathe mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Obtain, read and follow all safety instructions before use.
Wear protective gloves.

Response
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Get medical help.
IF EXPOSED OR CONCERNED: Get medical help if you feel unwell.

Storage
Store locked up.

Disposal
Dispose of contents/container in accordance with local/regional/national regulations.

Hazards not otherwise classified (HNOC)
Very toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%
Flumioxazin	103361-09-7	14.04
Pyroxasulfone	447399-55-5	17.81
Other ingredients	Various CAS#s	68.15

Specific information on other ingredients for the management of exposures, spills, or safety assessments can be obtained by a treating physician or nurse by calling **(800) 892-0099** at any time.

4. FIRST AID MEASURES

EMERGENCY NUMBER (800) 892-0099

EYE CONTACT:
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.

SKIN CONTACT:
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.

INGESTION:
Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by the poison control center or doctor. Do not give anything to an unconscious person.

INHALATION:
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.

NOTES TO PHYSICIAN:
None

5. FIRE FIGHTING MEASURES

FLASH POINT:

Flash point °F	Not determined
Flash point °C	Not determined
EXTINGUISHING MEDIA:	Dry chemical powder, carbon dioxide, water spray

FIRE FIGHTING INSTRUCTIONS: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear. Prevent extinguishing media run off from entering drains, sewers, and bodies of water.

HAZARDOUS DECOMPOSITION PRODUCTS: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Keep people away. Isolate fire area and deny unnecessary entry.

6. ACCIDENTAL RELEASE MEASURES

VALENT EMERGENCY PHONE NUMBER: (800) 892-0099
CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300

CONTAINMENT: Avoid runoff into storm sewers and ditches which lead to waterways. Contain spilled liquids with dry sorbents. Keep well ventilated. Wear proper personal protective equipment. Avoid release to the environment.

CLEANUP: Clean up spill immediately. Absorb spill with inert material (such as dry sand or earth), then place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container. Prevent wash water from entering surface water or drains. Wear proper personal protective equipment.

7. HANDLING AND STORAGE

HANDLING:
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 put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Chemical name	ACGIH Exposure Limits	OSHA Exposure Limits	Other Exposure Limits (Specify)
Propylene glycol	None	None	TWA 10mg/m^3 (US WEEL)
Smectite clay	TLV: TWA 10 mg/m^3 total dust; 3 mg/m^3 respirable dust (PNOS)	PEL: TWA 15 mg/m^3 total dust; 5 mg/m^3 respirable dust (PNOR)	None
Isopropanol	TWA 200 ppm	None	None
Sodium hydroxide	TWA 2 mg/m^3	None	None

EYES & FACE: Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

RESPIRATORY PROTECTION: Not usually required. Use this material in a well ventilated area. If necessary, use a NIOSH approved air purifying respirator with a dust-mist filter / organic vapor cartridge combination.

SKIN & HAND PROTECTION: Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks and chemical-resistant gloves made of any waterproof material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:		**Vapor pressure**	Not determined
Physical State	Liquid	**Vapor density**	Not determined
Color	White	**Specific Gravity**	Not determined
Odor	Sweet odor	**Water solubility**	Not determined
pH	7.4 (1% w/v)	**Solubility in other solvents**	Not determined
Melting point / freezing point	Not determined	**Partition coefficient**	Not determined
Boiling point / boiling range	Not determined	**Autoignition temperature**	Not determined
Flash point	Not determined	**Decomposition temperature**	Not determined
Evaporation rate	Not determined	**Viscosity**	56.0 cP at 20 °C
Flammability (solid, gas)	Not determined	**Explosive properties**	Not determined
Flammability Limits in Air:		**Oxidizing properties**	Not determined
Upper flammability limits	Not determined	**Liquid Density**	1.14 g/cm3 @ 20°C
Lower flammability limits	Not determined	**Bulk density**	Not determined

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

The following information is for this product formulation.

Oral Toxicity LD_{50} (rats)	> 5,000 mg/kg	EPA Tox Category	IV
Dermal Toxicity LD_{50} (rats)	> 2,000 mg/kg	EPA Tox Category	III
Inhalation Toxicity LC_{50} (rats)	> 2.04 mg/L (4 h)	EPA Tox Category	IV
Eye Irritation (rabbits)	Minimally irritating; resolved by 24-hr	EPA Tox Category	IV
Skin Irritation (rabbits)	Slightly irritating; resolved by 48-hr	EPA Tox Category	IV
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category	Not applicable

CARCINOGEN CLASSIFICATION

Chemical name	IARC Group 1 or 2	OSHA - Select Carcinogens	NTP Carcinogen List
None	Not listed	Not listed	Not listed

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: No evidence of an oncogenic effect was observed.

DEVELOPMENTAL TOXICITY: Maternal toxicity at 30 mg/kg/day by the oral route and 300 mg/kg/day by the dermal route. NOEL (rat) oral: 10 mg/kg/day and dermal: 100 mg/kg/day. 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 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: Not mutagenic.

TOXICITY OF PYROXASULFONE TECHNICAL:

SUBCHRONIC: Pyroxasulfone related effects include increased AST, slight liver and kidney weight increases, increased cardiomyopathy, centrilobular hepatocellular hypertrophy and hyperplastic urinary bladder mucosa. The NOAEL in rats was 50 ppm. No neurotoxicity was observed at acute doses to rats as high as 2000 mg/kg.

CHRONIC/CARCINOGENICITY: Pyroxasulfone was not carcinogenic in lifetime feeding studies in mice. Pyroxasulfone produced an increased incidence of urinary bladder transitional cell papillomas in male rats in a two-year carcinogenicity study.

REPRODUCTION: Pyroxasulfone did not produce effects on fertility or the embryo at the dosage of which general toxicity to parental animals was observed.

MUTAGENICITY: Pyroxasulfone is not mutagenic.

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 LD_{50} Bobwhite Quail: greater than 2,250 ppm
Dietary LC_{50} Bobwhite Quail: greater than 5,620 ppm
Dietary LC_{50} 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.

The following results were obtained from studies with Pyroxasulfone Technical:
LD_{50} bobwhite quail: greater than 2250 mg/kg

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 LC_{50} Rainbow Trout: 2.3 mg/L
96-hour LC_{50} Bluegill Sunfish: greater than 21 mg/L
48-hour LC_{50} Daphnia magna: greater than 5.5 mg/L
96-hour LC_{50} Sheepshead Minnow: greater than 4.7 mg/L
96-hour (shell deposition) EC_{50} Eastern Oyster: 2.8 mg/L
96-hour LC_{50} 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

Pyroxasulfone Technical is very toxic to aquatic organisms; special attention should be given to aquatic plants. Based upon EPA designation, the following test results are based on Pyroxasulfone Technical:
96-hour LC_{50} rainbow trout: greater than 2.2 mg/L
96-hour LC_{50} bluegill: greater than 2.8 mg/L
48-hour LC_{50} Daphnia magna: greater than 4.4 mg/L
96-hour LC_{50} sheepshead minnow: greater than 3.3 mg/L
96-hour EC_{50} algae = 0.00038 mg/L

OTHER NON-TARGET ORGANISM TOXICITY: Flumioxazin Technical is practically non-toxic to bees. The acute contact LC50 in bees is greater than 105 µg/bee.
Pyroxasulfone Technical is practically non-toxic to bees. The acute contact (48-hour) LD_{50} in bees was greater than 100 µg/bee.

OTHER ENVIRONMENTAL INFORMATION:
This product is toxic to non-target plants and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below mean high water mark. Do not apply where runoff is likely to occur. Do not apply where weather conditions favor drift from areas treated. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with applicable laws and regulations.

14. TRANSPORTATION INFORMATION

DOT (ground) SHIPPING NAME: Not regulated for domestic ground transport by U.S. DOT

ICAO/IATA SHIPPING NAME: UN3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Flumioxazin, Pyroxasulfone), 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: UN3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Flumioxazin, Pyroxasulfone), 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 absorbed through skin
- Avoid Contact with skin or clothing
- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet

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.

SARA (311, 312):

Immediate Health:	Yes
Chronic Health:	Yes
Fire:	No
Sudden Pressure:	No
Reactivity:	No

STATE REGULATIONS: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations.

Pennsylvania Right-To-Know

Cellulose	CAS# 9004-34-6
Siloxanes and silicones, dimethyl	CAS# 63148-62-9
Dimethyl siloxane reaction with silica	CAS# 67762-90-7
Propylene glycol	CAS# 57-55-6
Xylene	CAS# 1330-20-7
Ethyl Benzene	CAS# 100-41-4
NJTSN 08306620-11514P	CAS# Proprietary

New Jersey Right-To-Know

Propylene glycol	CAS# 57-55-6
NJTSN 08306620-11514P	CAS# Proprietary

16. OTHER INFORMATION

REASON FOR ISSUE: New product SDS
SDS NO.: 0570
EPA REGISTRATION NUMBER: 59639-237
REVISION NUMBER: 0
REVISION DATE: 02/19/2021
SUPERCEDES DATE: NEW
RESPONSIBLE PERSON(S): Valent U.S.A. LLC, Corporate EH&S

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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 as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom").

The product label provides information specifically for product use in the ordinary course. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label.