



Safety Data Sheet - GHS

1. IDENTIFICATION: CHEMICAL PRODUCT AND COMPANY

PRODUCT NAME: SureGuard™ Herbicide
EPA REGISTRATION NUMBER: 59639-120
VC NUMBER(S): 1420
PRODUCT CODE: 88504
PRODUCT DESCRIPTION: Herbicide

SureGuard is a trademark of Valent U.S.A. LLC

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
 PROFESSIONAL PRODUCTS: (800) 898-2536

The current SDS is available through our website (www.valent.com), or by calling the product information numbers listed above.

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) - (Bone Marrow)	Category 2
Acute Aquatic Toxicity	Category 2
Chronic Aquatic Toxicity	Category 1

Label elements

EMERGENCY OVERVIEW

Signal Word

WARNING

Symbols



Hazard statements

Harmful if inhaled.
 Suspected of damaging fertility or the unborn child.
 May cause damage to organs through prolonged or repeated exposure.
 Toxic to aquatic life.
 Very toxic to aquatic life with long lasting effects.

Precautionary statements**Prevention**

Obtain, read and follow all safety instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Use personal protective equipment as required.
 Avoid breathing dust/fume/gas/mist/vapors/spray.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/clothing/eye protection/face protection.
 Do not breath mist or spray.

Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
 If exposed or concerned: Get medical attention/ advice.
 Get medical advice/ attention if you feel unwell.

Storage

Store locked up.

Disposal

Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC)**Other Information**

None
 For information on Transportation requirements, see Section 14.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Flumioxazin	103361-09-7	51
Ingredients withheld as a Trade Secret	Various CAS No.'s	49

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:

Treatment is supportive and symptomatic.

5. FIRE FIGHTING MEASURES

Flash point °C

Flash point °F

EXTINGUISHING MEDIA: Water fog, carbon dioxide, foam, dry chemical

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: Thermal decomposition or combustion may produce harmful/irritant gas or fumes such as nitrogen oxides, carbon oxides, hydrogen fluoride or organic compounds.

6. ACCIDENTAL RELEASE MEASURES

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

CONTAINMENT: Reduce airborne dust. Avoid runoff into storm sewers or other bodies of water.

CLEANUP: Clean up spill immediately. Vacuum or sweep up material and 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.

7. HANDLING AND STORAGE**HANDLING:**

The usual precautions for handling chemicals should be observed. For personal protection see Section 8. Avoid contact with eyes, skin or clothing. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Wear protective clothing and equipment when handling this product. Goggles or protective eyewear, gloves, long-sleeved shirt, long pants, socks and shoes are appropriate.

STORAGE:

Keep pesticide in original container. Do not store or transport near food or feed. Do not contaminate food or feed. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Store in a cool, dry place, away from heat, flame and strong acids. Not for use or storage in or around the home. Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**INFORMATION FOR END USERS**

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

RESPIRATORY PROTECTION: Use this material only in well ventilated areas. If ventilation is not adequate to keep airborne concentrations below recommended exposure standards, approved respiratory protection should be worn.

SKIN & HAND PROTECTION: Avoid contact with skin or clothing. Skin contact should be minimized by wearing

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 6

SDS NO.: 0172
REVISION DATE: 06/30/2021

protective clothing including long pants, long-sleeved shirt and shoes plus socks, and chemical-resistant gloves. Remove contaminated clothing. Wash before reuse.

EXPOSURE LIMITS

Chemical Name	ACGIH Exposure Limits	OSHA Exposure Limits
Titanium Dioxide	TWA value 10 mg/m ³	PEL 5 mg/m ³ Respirable fraction PEL 15 mg/m ³ Total dust
Kaolin clay	TWA: 2 mg/m ³ particulate matter containing no asbestos and <1% crystalline silica, respirable particulate matter	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Granules	Vapor pressure	Not determined
Physical State	Solid	Vapor density	Not determined
Color	Light brown	Specific Gravity	Not determined
Odor	Slight	Water solubility	Dispersible in water
pH	5.9 @ 25°C (1% aqueous solution)	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	Not applicable
Flammability (solid, gas)	Not determined	Explosive properties	Not determined
Flammability Limits in Air:		Oxidizing properties	Not determined
Upper flammability limits	Not determined	Liquid Density	Not determined
Lower flammability limits	Not determined	Bulk density	33.2 lb/ft ³

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

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous Decomposition Products

Thermal decomposition or combustion may product harmful/irritant gas or fume such as nitrogen oxides, carbon oxides, hydrogen fluoride or organic compounds.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral Toxicity LD ₅₀ (rats)	> 5,000 mg/kg	EPA Tox Category	IV
Dermal Toxicity LD ₅₀ (rabbits)	> 2,000 mg/kg	EPA Tox Category	III
Inhalation Toxicity LC ₅₀ (rats)	> 2.18 mg/L (4 h)	EPA Tox Category	IV
Eye Irritation	Brief and/or mild irritation	EPA Tox Category	IV
Skin Irritation	Brief and/or mild irritation	EPA Tox Category	IV
Skin Sensitization	Not a Skin sensitizer	EPA Tox Category	None

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: Flumioxazin Technical is “not likely to be carcinogenic to humans” based on the lack of carcinogenicity in rat and mouse studies. In a chronic feeding study with dogs, the NOEL was 10 mg/kg/day (capsule). In chronic dietary studies, NOELs were 300 ppm and 50 ppm in mice and rats, respectively.

DEVELOPMENTAL TOXICITY: Flumioxazin Technical produces developmental toxicity in rats in the absence of maternal toxicity. The developmental NOEL in the 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 and OFFSPRING: In a 2-generation study in rats with Flumioxazin Technical, there were no effects on reproduction up to 300 ppm, the highest dose tested. The NOEL for systemic toxicity in adults was 200 ppm. The NOEL for offspring was 100 ppm.

MUTAGENICITY: Flumioxazin Technical was not mutagenic in the *in vitro* 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

AVIAN TOXICITY:

Based upon EPA designation, Flumioxazin Technical is practically non-toxic to avian species.

Oral LD₅₀ Bobwhite Quail: >2,250 ppm
 Dietary LC₅₀ Bobwhite Quail: >5,620 ppm
 Dietary LC₅₀ Mallard Duck: >5,620 ppm
 Mallard reproduction NOEL: 250 ppm.

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: >21 mg/L
 48-hour LC₅₀ Daphnia magna: >5.5 mg/L
 96-hour LC₅₀ Sheepshead Minnow: >4.7 mg/L
 96-hour (Shell Deposition) EC₅₀ Eastern Oyster: 2.4 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: 28 µg/L

OTHER NON-TARGET ORGANISM TOXICITY: Flumioxazin Technical is practically non-toxic to bees. The acute contact LC₅₀ in bees was >105 µg/bee.

OTHER ENVIRONMENTAL INFORMATION:

This product is toxic to non-target plants and aquatic invertebrates.

13. DISPOSAL CONSIDERATIONS

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

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: Triple rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

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 or Canada TDG.
EMERGENCY RESPONSE GUIDEBOOK NO.: Not Applicable

ICAO/IATA SHIPPING NAME: UN 3077 Environmentally Hazardous Substance, Solid, 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 3077, Environmentally Hazardous Substance, Solid, N.O.S. (flumioxazin), 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

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

- *Keep out of reach of children.*
- *Harmful if inhaled or absorbed through skin.*
- *Causes moderate eye irritation.*
- *Avoid breathing dust or spray mist.*
- *Avoid contact with eyes, skin and clothing.*

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 No
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.

For State Right to know

<u>State</u>	<u>Chemical name</u>	<u>CAS#</u>
Massachusetts	Ammonium Sulfate	7783-20-2
	Kaolin	1332-58-7
Pennsylvania	Ammonium Sulfate	7783-20-2
	Kaolin	1332-58-7
	Ethylene oxide	75-21-8
	Ethylene Glycol	107-21-1
	Naphthalene	91-20-3
New Jersey	Kaolin	1332-58-7
	Ethylene oxide	75-21-8
	Ethylene Glycol	107-21-1
	Naphthalene	91-20-3
Rhode Island	Ammonium Sulfate	7783-20-2
	Kaolin	1332-58-7

US state regulations

California Proposition 65

This product can expose you to chemicals including Ethylene oxide, which are known in the State of California to cause cancer and birth defects or other reproductive harm. For more information go to

www.P65Warnings.ca.gov.

WARNING:

California Proposition 65 - CRT: Listed date/Carcinogenic substance
 Ethylene oxide (CAS 75-21-8) Listed: July 1, 1987
 California Proposition 65 - CRT: Listed date/Developmental toxin
 Ethylene Glycol (CAS 107-21-1) Listed: June 19, 2015
 Ethylene oxide (CAS 75-21-8) Listed: August 7, 2009
 California Proposition 65 - CRT: Listed date/Female reproductive toxin
 Ethylene oxide (CAS 75-21-8) Listed: February 27, 1987
 California Proposition 65 - CRT: Listed date/Male reproductive toxin
 Ethylene oxide (CAS 75-21-8) Listed: August 7, 2009

WARNING! This product contains a chemical known in the State of California to cause cancer.
 Naphthalene CAS#:91-20-3

For information regarding potential adverse health effects from exposure to this product, refer to Sections 2 and 11.

16. OTHER INFORMATION

REASON FOR ISSUE:	General update
SDS NO.:	0172
EPA REGISTRATION NUMBER:	59639-120
REVISION NUMBER:	6
REVISION DATE:	06/30/2021
SUPERCEDES DATE:	09/10/2020
RESPONSIBLE PERSON(S):	Valent U.S.A. LLC, Corporate EH&S, (925) 256-2803

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Valent U.S.A. LLC and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent U.S.A. LLC nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent U.S.A. LLC to confirm that you have the most current product label and SDS.

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.

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