



# Certainty® Turf Herbicide

## Safety Data Sheet - GHS

### 1. IDENTIFICATION: CHEMICAL PRODUCT AND COMPANY

**PRODUCT NAME:** Certainty® Turf Herbicide

**EPA REGISTRATION NUMBER:** 59639-226

**PRODUCT DESCRIPTION:** Selective Herbicide

#### MANUFACTURER/DISTRIBUTOR

VALENT U.S.A. CORPORATION

P.O. Box 8025

1600 Riviera Avenue, Suite 200

Walnut Creek, CA 94596-8025

#### 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

### 2. HAZARDS IDENTIFICATION

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as the FIFRA-required classifications on the product label. Certain sections of this SDS are superseded by federal law under EPA FIFRA for a registered pesticide. Please see Section 15, REGULATORY INFORMATION for an explanation.

**Classification** - This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122)

#### Label elements

#### EMERGENCY OVERVIEW

**No Signal Word is required for this material.**

#### Precautionary statements

##### Prevention

None.

##### Response

**Eyes** None.

**Skin** None.

**Inhalation** None.

**Ingestion** None.

Emergency Telephone: (800) 892-0099  
 REVISION NUMBER: 1

SDS NO.: 0514  
 REVISION DATE: 09/23/2016

**FIRE** None.  
**Spill** None.

**Storage**  
 None.

**Disposal**  
 None.

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

- Harmful to aquatic life with long lasting effects
- <5% of the mixture consists of ingredient(s) of unknown toxicity

For information on Transportation requirements see Section 14.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS Number	Weight/ Percent	TRADE SECRET
Sulfosulfuron	141776-32-1	75	
Others	(Various CAS#s)	25	

\* The chemical name, CAS number and/or exact percentage have been withheld as a trade secret

Other ingredients, which may be maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identities are withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document. 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**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **1-800-892-0099** for emergency medical treatment information.

**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 °C** Not applicable  
**Flash point °F**  
**AUTOIGNITION:** Does not self-ignite  
**EXTINGUISHING MEDIA:** Water fog, carbon dioxide, foam, dry chemical

**NFPA RATING:**  
 Health: 1  
 Flammability: 1  
 Reactivity: 0  
 Special: None

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using professional judgement. Values were not available in the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

**FIRE FIGHTING INSTRUCTIONS:** Minimize use of water to prevent environmental contamination. Use self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon oxides and Sulfur oxides; Oxides of nitrogen; ammonia;

**6. ACCIDENTAL RELEASE MEASURES**

**VALENT EMERGENCY PHONE NUMBER: (800) 892-0099**  
**CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300**  
**OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION**  
 Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. For additional spill response information refer to the North American Emergency Response Guidebook.

**UN/NA NUMBER:** Not applicable      **EMERGENCY RESPONSE GUIDEBOOK NO.:** Not applicable

**CONTAINMENT:** Contain spilled material if possible. Reduce airbourne dust. Avoid runoff into storm sewers or other bodies of water.

**CLEANUP: SMALL QUANTITIES:**  
 Sweep, scoop or vacuum to remove.  
 Wash spill area with detergent and water.  
**LARGE QUANTITIES:**  
 Dig up heavily contaminated soil.  
 Refer to section 7 for types of containers.  
 Collect in containers for disposal.  
 Flush residues with small quantities of water.  
 Minimise use of water to prevent environmental contamination.

**7. HANDLING AND STORAGE**

**END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.**

**HANDLING:**

Keep out of reach of children. Do not swallow. Avoid breathing dust or mist. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Use with adequate ventilation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and shoes immediately. Then wash thoroughly and put on clean clothing.

**STORAGE:**

Conditions for safe storage of sulfosulfuron  
 Maximum storage temperature: < 120 °F  
 Compatible materials for storage: stainless steel, galvanized steel, unlined mild steel, Heresite[™]-lined steel, mild steel, aluminium, fibreglass, plastic, polyvinylidene difluoride (PVDF), polypropylene (PP), high-density polyethylene (HDPE)  
 Incompatible materials for storage: none known.  
 Keep out of reach of children.  
 Keep away from food, drink and animal feed.  
 Keep only in the original container.  
 Keep container tightly closed in a cool, well-ventilated place.  
 Keep container off wet floors.  
 Minimum shelf life: 2 years.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.**

**EYES & FACE:** If there is significant potential for contact: Wear dust goggles.

**RESPIRATORY PROTECTION:** No special requirement when used as recommended.

**SKIN & HAND PROTECTION:** Consistent with general hygienic practice for any material, skin contact should be minimized. Applicators and other handlers must wear: long sleeved shirt, long pants and shoes with socks. Keep and wash personal protective equipment separately from other laundry. If no such instructions for washables, use detergent and hot water.

**EXPOSURE LIMITS**

Chemical Name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Sulfosulfuron	None	None	None
Others	None	None	None

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical state</b>	Free-flowing granules	<b>Odor</b>	Odorless
<b>Appearance</b>	Granules	<b>Odor threshold</b>	No information available
<b>Color</b>	Whitish		

<u>PROPERTIES</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	5.5 @ 10 g/L	
Melting point/freezing point	No data available	
Boiling point/boiling range	Not applicable	
Flash point	Not applicable	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		

<b>Upper flammability limits</b>	No information available
<b>Lower flammability limit</b>	No information available
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Specific Gravity</b>	No information available
<b>Water solubility</b>	Dispersible in water
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	log Pow: <1 (sulfosulfuron)
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Viscosity</b>	No information available
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Density</b>	No information available
<b>Bulk density</b>	33.8 lb/ft <sup>3</sup>

**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**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**11. TOXICOLOGICAL INFORMATION**

**ACUTE TOXICITY:**

The following acute toxicological information is based on data for a similar formulation.

Oral Toxicity LD <sub>50</sub> (rats)	> 5000 mg/kg	EPA Tox Category	IV
Dermal Toxicity LD <sub>50</sub> (rats)	> 5000 mg/kg	EPA Tox Category	IV
Inhalation Toxicity LC <sub>50</sub> (rats)	> 2.6 mg/L (4 h)	EPA Tox Category	IV
Eye Irritation (rabbits)	Slightly irritating	EPA Tox Category	IV
Skin Irritation (rabbits)	Non-irritating	EPA Tox Category	IV
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category	Not applicable

**CARCINOGEN CLASSIFICATION**

Chemical Name	IARC	OSHA - Select Carcinogens	NTP Carcinogen List
Others	Not listed	Not listed	Not listed
Sulfosulfuron	Not listed	Not listed	Not listed

**CHRONIC/CARCINOGENICITY:** Urinary bladder tumours in rats and mice. Mode(s) of action not relevant to humans.

**DEVELOPMENTAL TOXICITY:** No developmental effects in rats or rabbits.

**REPRODUCTION:** No reproductive effects in rats.

For a summary of the potential for adverse health effects from exposure to this product, refer to Section 2. For information regarding regulations pertaining to this product, refer to Section 15.

**12. ECOLOGICAL INFORMATION**

Data obtained on similar products and on components are summarized below.

**AVIAN TOXICITY:**

Sulfosulfuron:  
 Bobwhite quail (*Colinus virginianus*):  
 Dietary toxicity, 5 days, LC50: > 5,620 mg/kg diet  
 Practically non-toxic.  
 Mallard duck (*Anas platyrhynchos*):  
 Acute oral toxicity, single dose, LD50: > 2,250 mg/kg body weight  
 Practically non-toxic.

Mallard duck (*Anas platyrhynchos*):  
 Dietary toxicity, 5 days, LC50: > 5,620 mg/kg diet  
 Practically non-toxic.  
 Bobwhite quail (*Colinus virginianus*):  
 Acute oral toxicity, single dose, LD50: > 2,250 mg/kg body weight  
 Practically non-toxic.  
 Mallard duck (*Anas platyrhynchos*):  
 Acute oral toxicity, single dose, LD50: > 2,250 mg/kg body weight  
 Practically non-toxic.

**AQUATIC ORGANISM TOXICITY:** Sulfosulfuron Similar Formulation:

## AQUATIC TOXICITY, FISH

Rainbow trout (*Oncorhynchus mykiss*):

Acute toxicity (limit test), 96 hours, static, LC50: &gt; 97 mg/L

No more than slightly toxic.

## Sulfosulfuron Similar Formulation

## AQUATIC TOXICITY, INVERTEBRATES

Water flea (*Daphnia magna*):

Acute toxicity (limit test), 48 hours, static, EC50: &gt; 144 mg/L

Practically non-toxic.

## AQUATIC TOXICITY, ALGAE/AQUATIC PLANTS

Green algae (*Pseudokirchneriella subcapitata*):

Acute toxicity, 72 hours, static, EC50: 71.4 µg/L

Very highly toxic.

Duckweed (*Lemna gibba*):

Acute toxicity, 7 day, semi-static, ErC50 (frond number): 1.20 µg/L

Very highly toxic.

Duckweed (*Lemna gibba*):

Acute toxicity, 7 day, semi-static, NOEC: 0.27 µg/L

Very highly toxic.

**OTHER NON-TARGET ORGANISM TOXICITY:** Arthropod toxicity - Sulfosulfuron  
 Honey bee (*Apis mellifera*):  
 Contact, 48 hours, LD50: > 123 µg/bee  
 Practically non-toxic.  
 Honey bee (*Apis mellifera*):  
 Oral, 48 hours, LD50: > 128 µg/bee  
 Practically non-toxic.

**OTHER ENVIRONMENTAL INFORMATION:**

Soil organism toxicity, invertebrates

Earthworm (*Eisenia foetida*): Acute toxicity (limit test), 14 days, LC50: > 848 mg/kg dry soil

## Bioaccumulation

No significant bioaccumulation is expected.

## Dissipation

Soil, field: Half life: 11 - 47 days

Water, aerobic: Half life: 16 - 20 days

### 13. DISPOSAL CONSIDERATIONS

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

**PRODUCT DISPOSAL:** Keep out of drains, sewers, ditches and water ways. To avoid wastes, use all material in this container, including rinsate, by application in accordance with label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program. Such programs are often run by state or local governments or by industry. All disposal must be in accordance with applicable Federal, State and local procedures.

**CONTAINER DISPOSAL:** Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available.

Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into the application equipment or a mix tank. Fill the container ¼ 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 for two more times. Then offer for recycling if available or puncture and dispose of in an sanitary landfill or by incineration, or if allowed by State or local authorities, by burning. If burned, stay out of 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 or Canada TDG.

**REMARKS:** None

**EMERGENCY RESPONSE**

**GUIDEBOOK NO.:** n/a

**ICAO/IATA SHIPPING NAME:** UN3077 Environmentally Hazardous Substance, Solid, N.O.S. (Sulfosulfuron), 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:** UN3077 Environmentally Hazardous Substance, Solid, N.O.S. (Sulfosulfuron), 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

**EMS NO.:** F-A, S-F

**15. REGULATORY INFORMATION**

**EPA-FIFRA LABEL INFORMATION THAT DIFFERS FROM OSHA-GHS REQUIREMENTS:**

This material is a pesticide product registered by the EPA under FIFRA and is 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**

- *Causes moderate eye irritation*
- *Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.*

**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: 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. Therefore, the user should consult state or local authorities. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Right to Know, Michigan Critical Materials List, New Jersey Right to Know, Pennsylvania Right to Know, Rhode Island Right to Know and the Minnesota Hazardous Substance list. For Washington State Right to Know, see Section 8 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

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

**16. OTHER INFORMATION**

**REASON FOR ISSUE:** New Product.  
**SDS NO.:** 0514  
**EPA REGISTRATION NUMBER:** 59639-226  
**REVISION NUMBER:** 1  
**REVISION DATE:** 09/23/2016  
**SUPERCEDES DATE:** None  
**RESPONSIBLE PERSON(S):** Valent U.S.A. Corporation, 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. Corporation 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. Corporation 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. Corporation to confirm that you have the most current product label and SDS.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABEL (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 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. Use, storage and disposal of pesticide products is regulated by the EPA under the authority of FIFRA through the product label. 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. It is a violation of federal law to use an EPA-registered pesticide product in any manner inconsistent with its labeling.

2016 Valent U.S.A. Corporation