



U.S. ENVIRONMENTAL PROTECTION AGENCY  
 Office of Pesticide Programs  
 Registration Division (7505P)  
 1200 Pennsylvania Ave., N.W.  
 Washington, D.C. 20460

EPA Reg. Number:

53883-468

Date of Issuance:

6/11/20

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
 (under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

CSI 19-313B Glufosinate 11.33%

Name and Address of Registrant (include ZIP Code):

Control Solutions, Inc.  
 5903 Genoa-Red Bluff  
 Pasadena, TX 77507-1041

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.
2. The data requirements for storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) are not satisfied. A one year study is required to satisfy these data requirements. You have 18 months from the date of registration to provide these data.

Signature of Approving Official:

Erik Kraft, Product Manager 24  
 Fungicide Herbicide Branch, Registration Division (7505P)

Date:

6/11/20

3. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, “EPA Reg. No. 53883-468.”
4. Submit one copy of the revised final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 07/25/2019
- Alternate CSF 1 dated 11/05/2019
- Alternate CSF 2 dated 11/05/2019
- Alternate CSF 3 dated 11/05/2019
- Alternate CSF 4 dated 11/05/2019

If you have any questions, please contact Manjula Unnikrishnan by phone at 703-455-1967, or via email at [unnikrishnan.manjula@epa.gov](mailto:unnikrishnan.manjula@epa.gov)

Enclosure

**ACCEPTED**

06/11/2020

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 53883-468

*[Text in brackets and italics are notes to the label editor.]*

[Text in brackets alone are optional statements or alternative statements.]

**GLUFOSINATE-AMMONIUM**

**GROUP**

**10**

**HERBICIDE**

**RESTRICTED USE PESTICIDE**

For retail sale to and use only by certified applicators or persons under their direct supervision, and only for those uses covered by the certified applicator's certification.

**CSI 19-313B Glufosinate 11.33%**

ABN(s): [Nullify T&O], [Nullify Farm & Ranch], [Nullify 11.33], [Reverse], [Reverse Farm & Ranch], [Reverse 11.33], [Setback], [Setback Farm and Ranch], [Setback 11.33], [Groundbreaker], [Groundbreaker Farm & Ranch], [Groundbreaker 11.33], [Revolt], [Revolt Farm & Ranch], [Revolt 11.33], [Torvedo], [Torvedo Farm & Ranch], [Torvedo 11.33], [Eraser GFN]

**ACTIVE INGREDIENT:**

Glufosinate-ammonium ..... 11.33%

**OTHER INGREDIENTS:** ..... 88.67%

**TOTAL:** ..... 100.00%

Contains 1.0 lbs. of glufosinate-ammonium per gallon.



ADAMA

Consumer & Professional Solutions

**Manufactured for:**

Control Solutions, Inc.  
5903 Genoa Red Bluff  
Pasadena, TX 77507

EPA Reg. No: 53883-XXX

EPA Est. No: \_\_\_\_\_

Net Contents: \_\_\_\_\_

[Store and transport in an upright position.]

**KEEP OUT OF REACH OF CHILDREN**

**WARNING-AVISO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

*[Alternate text – all or in part: See side panel(s) for First Aid, Precautionary Statements, Directions for Use and Storage and Disposal.]*

<b>FIRST AID</b>	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eyes 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.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• <b>DO NOT</b> induce vomiting unless told to by a poison control center or doctor.</li> <li>• <b>DO NOT</b> give anything by mouth to an unconscious person</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>HOT LINE NUMBER</b>	

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® (866) 897-8050 for emergency medical treatment information.

**NOTE TO PHYSICIAN:** If this product is ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by charcoal and sodium sulfate administration.

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**WARNING:** Causes substantial but temporary eye injury. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**All handlers must wear:** Long-sleeved shirt, long pants, shoes and socks. Wear protective eyewear. Wear long-sleeved shirt and long pants, socks, and shoes, and chemical resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, PVC, or Viton.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exists, use detergent and hot water. Keep and wash PPE separately from other laundry.

### User Safety Recommendations

#### Users should:

- Remove clothing/PPE 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.

### ENVIRONMENTAL HAZARDS

**DO NOT** apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. **DO NOT** clean equipment or dispose of equipment washwaters in a manner that will contaminate water resources or arable land. Glufosinate ammonium and its degradates have those properties normally associated with pesticides that have been detected in groundwater. Use of this product in areas with coarse soils and high water tables may result in groundwater contamination.

### PRODUCT INFORMATION

CSI 19-313B Glufosinate 11.33% is a nonselective water-soluble herbicide for application as a foliar spray for the control of a broad spectrum of emerged annual and perennial grass and broadleaf weeds. CSI 19-313B Glufosinate 11.33% will also control certain woody species. Plants that have not yet emerged at the time of application will not be controlled. **THOROUGH SPRAY COVERAGE IS IMPORTANT.** Visual effects and control from application of CSI 19-313B Glufosinate 11.33% occur within 2 to 4 days after application under good growing conditions.

This product is nonselective and will injure or kill all green vegetation contacted by the spray. Avoid all contact with foliage or green tissue of desirable vegetation. Avoid direct spray contact with green, thin, or uncalloused bark of desirable vegetation or plant injury may result. If desirable vegetation is contacted, rinse the sprayed portion with water immediately.

CSI 19-313B Glufosinate 11.33% works best when weeds are actively growing. Weed control may be reduced when applications are made to weeds under stress due to drought or cool temperatures. Weeds

under stress or in dense populations will require application at the highest rate specified. Refer to the How to Apply section of this label.

## **DIRECTIONS FOR USE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

READ ALL DIRECTIONS COMPLETELY BEFORE USE.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### **AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses; and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**DO NOT** enter or allow worker entry into treated areas during the restricted entry-interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, including plants, soil, or water, is: coveralls; chemical-resistant gloves including barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, polyvinyl chloride (PVC)  $\geq 14$  mils, or Viton  $\geq 14$  mils; shoes plus socks; protective eyewear.

### **NON AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. The application for trimming and edging, industrial, recreational and public areas, and farmsteads are not within the scope of the WPS.

### **WEED RESISTANCE MANAGEMENT**

For resistance management, CSI 19-313B Glufosinate Concentrate is a Group 10 herbicide. Any weed population may contain or develop plants naturally resistant to CSI 19-313B Glufosinate Concentrate and other Group 10 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance, take one or more of the following steps:

- Rotate the use of CSI 19-313B Glufosinate Concentrate or other Group 10 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide used and crop rotation, and that considers tillage (or other

mechanical control methods), cultural (e.g. higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.

- Scout before and after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- Report any incidence of non-performance of this product against a particular weed species to Control Solutions, Inc., your local retailer or your local extension specialist. If resistance is suspected, treat weed escapes with a herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further seed production.

### **BEST MANAGEMENT PRACTICES**

Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is recommended. A diversified weed management program may include the use of multiple herbicides with different modes of action and overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that using the labeled rate and directions for use is important to delay the selection for resistant weeds. Scouting after herbicide application is important because it can facilitate the early identification of weed shifts and/or weed resistance and thus provide direction on future weed management practices. One of the best ways to contain resistant weed populations is to implement measures to avoid allowing weeds to reproduce by seed or to proliferate vegetatively. Cleaning equipment between sites and avoiding movement of plant material between sites will greatly aid in reducing the spread of resistant weed seed.

### **MANDATORY SPRAY DRIFT MITIGATION**

- **DO NOT** apply where wind speeds 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.
- For ground applications, select nozzle and pressure that deliver medium to coarse spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with ASABE Standard 572.1.
- Spray at the appropriate boom height based on nozzle selection and nozzle spacing, but **DO NOT** exceed a boom height of 24 inches above target pest or crop canopy. Set boom to lowest effective height over the target pest or crop canopy based on equipment manufacturer's directions. Automated boom height controllers are recommended with large booms to better maintain optimum nozzle to canopy height. Excessive boom height will increase the potential for spray drift.
- For non-crop vegetation management ground applications, apply with the nozzle height no more than 4 feet above the ground or target vegetation, unless necessitated by the application equipment. Examples would include roadside, railroad, utility rights of way, forestry and other industrial vegetation management applications where safety or natural barriers obstruct application.

## SPRAY DRIFT ADVISORIES

**POLLINATOR ADVISORY:** This product contains a herbicide. Follow all label directions and precautions to minimize potential off-target exposure in order to prevent effects to non-target plants adjacent to the treated site which may serve as habitat or forage for pollinators.

**Spray Drift Management:** The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

- **Importance of Droplet Size:** The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. **APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS!** See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.
- **Techniques for Controlling Droplet Size:**
  - **Volume** – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rates produce larger droplets.
  - **Pressure** – Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**
  - **Nozzle Type** – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.
- **Boom Height:** Setting the boom at the lowest referenced height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.
- **Drift Reduction Technology (DRT):** The EPA Drift Reduction Technology (DRT) Program was developed to encourage the manufacture, marketing and use of spray technologies scientifically verified to significantly reduce pesticide drift. The use of DRTs should result in significantly less pesticide from spray applications drifting and being deposited in areas not targeted by those applications, compared to spray technologies that **DO NOT** meet the minimum DRT standard. EPA-verified drift reduction technologies (DRTs) and their ratings will be added to the following webpage as they become available: <https://www.epa.gov/reducing-pesticide-drift/epa-verified-and-rated-drift-reduction-technologies>
- **Wind:** Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. **AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.** Note: Local terrain can influence wind patterns. Every applicator needs to be familiar with local wind patterns and how they affect spray drift.
- **Temperature and Humidity:** When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.
- **Temperature Inversions:** Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

- Shield Sprayers: Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

**USE RESTRICTIONS:**

- **DO NOT** apply this product by aerial application.
- **DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.
- **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** apply directly to or allow drift to contact desirable green tissue or green, thin or uncalloused bark of desirable vegetation.
- **DO NOT** allow animals intended for slaughter to graze on vegetation treated with this product.
- **DO NOT** apply this product to residential areas as other than a spot or directed spray.
- **DO NOT** apply this product to residential areas at a rate greater than 4 fl.oz. (0.03 lb. a.i.) per gallon per 1,000 sq.ft. per application.
- **DO NOT** apply more than 12 fluid ounces of product (0.9 lbs. a.i.) per 1,000 sq. ft. per year when applied as a combination of any type of application.
- **DO NOT** apply this product to residential areas at a rate greater than 174.24 fl.oz. (5 quarts) (1.3 lb. a.i.) per acre per application.
- **DO NOT** apply more than 522.72 fl. oz. (16 quarts) of product (4.1 lbs. a.i.) per acre per year when applied as a combination of any type of application.
- **DO NOT** apply more than 3 applications per year when using the maximum single application rate (excluding spot treatments).
- Sequential applications must be a minimum of 5 days apart in non-crop areas.
- **DO NOT** apply beyond runoff.
- **In the State of New York only:** Not for use in Nassau and Suffolk Counties

**WHEN TO APPLY:** CSI 19-313B Glufosinate 11.33% is a foliar-active material. Best results are obtained when weeds are actively growing. Weed control may be reduced when applications are made to weeds under stress due to drought or cool temperatures. Weeds under stress or in dense populations will require application of the highest rate. Refer to the How to Apply section of this label.

CSI 19-313B Glufosinate 11.33% need to be applied at the rate specified in the How to Apply section of this label. Repeat applications of CSI 19-313B Glufosinate 11.33% or application of a separate residual herbicide will be needed to control weeds emerging from underground parts or seeds.

CSI 19-313B Glufosinate 11.33% is rain fast in a minimum of one-half hour and an average of 4 hours after application depending upon weed species, environmental conditions, and herbicide application rate.

Plants may be safely planted into area treated with CSI 19-313B Glufosinate 11.33% after spray has dried.

**HOW TO MIX:** CSI 19-313B Glufosinate 11.33% must be mixed with water to make a finished spray solution as follows:

1. Fill the spray tank with the required amount of water.
2. Add the proper amount of this product, then mix thoroughly.

**HOW TO APPLY**

**Spot or Directed Applications:** This product may be used as a spot or directed spray application using 2 to 4 fluid ounces (0.02 to 0.03 lb. a.i.) per gallon of water. Mix 2 to 4 fluid ounces (0.02 to 0.03 lb. a.i.) per gallon of water depending upon the weed and stage of growth as shown in the following sections. Spray undesirable vegetation foliage on a spray-to-wet basis. **DO NOT** apply beyond runoff. Ensure uniform and complete coverage. Use a coarse spray. **DO NOT** spray during windy conditions. Backpack, pump-up, and hydraulic sprayers may be used. Thoroughly clean the sprayer following use.

**Broadcast or Boom Applications**



Apply 2 to 5 quarts per acre (0.5 to 1.25 lbs. a.i.) depending upon the weed and stage of growth as shown in the following sections. Use a minimum of 40 gallons of water per acre with a minimum of 30-psi spray pressure.

**Tank Mix Directions for Noncrop Uses**

It is the pesticide user’s responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. CSI 19-313B Glufosinate 11.33% is compatible in tank mixes with many other herbicides including non-selective herbicides including Roundup® [EPA Reg. No. 71995-33] (Glyphosate). Follow the more restrictive label limitations and use precautions for each product. No label dosage rates need to be exceeded.

Tank mix applications of CSI 19-313B Glufosinate 11.33% plus the following herbicides are specified for broad-spectrum postemergence and preemergence weed control.

Dicamba Herbicides	Imazapyr Herbicides
Pendimethalin Herbicides	Quali-Pro Isoxaben 75 WG Herbicide [[Isoxaben] EPA Reg. No. 53883-434]
Quali-Pro Oryzalin 4 Herbicide [[Oryzalin] EPA Reg. No. 53883-369]	Quali-Pro Prodiamine 65 WDG Herbicide [[Prodiamine] EPA Reg. No. 53883-429]

A compatibility test must be conducted with any potential tank mix partner with CSI 19-313B Glufosinate 11.33%, except with anyone of those listed above. Using a clear glass quart jar, conduct the test as described below:

1. Fill the jar three-quarters full with water.
2. Add the appropriate amount of herbicide in the following order: (a) dry flowable, (b) wettable powder, (c) aqueous suspensions, (d) flowables, (e) liquids and (f) solutions and emulsifiable or liquid concentrates. Shake or gently stir jar after each addition to thoroughly mix.
3. After adding all ingredients, let the mixture stand for 15 minutes and then look for separation, large flakes, precipitates, gels, and heavy oily film on the jar or other signs of incompatibility.
4. If the compatibility test shows signs of incompatibility, **DO NOT** tank mix the product tested with CSI 19-313B Glufosinate 11.33%.

Use higher rates within the specified rate range for plant sizes listed when vegetation cover is dense or when weeds are growing under stressed conditions including drought or when average temperatures are below 50°F.

The addition of 8.5 to 17 pounds of ammonium sulfate (spray grade) per 100 gallons of water (1 to 2% by weight) or 2 to 4 pounds of ammonium sulfate per acre may improve the level of weed control.

<b>Broadleaf Weeds</b>	<b>For Spot Applications:</b>
Chickweed	Apply 2 fluid ounces (0.02 a.i.) per gallon of water when the weed height or diameter is less than 6 inches.
Clover	
Common Cocklebur	Apply 3 fluid ounces (0.023 lb. a.i.) per gallon of water when the weed height or diameter is 6 inches or greater.
Filaree	
Jimsonweed	
Kochia	<b>For Broadcast Applications:</b>
London Rocket	
Malva (little mallow)	
Marestail	
Purslane	
Shepherdspurse	
Smartweed	
	Apply 4 quarts (1.0 lb. a.i.) per acre when the weed height or diameter is 6 inches or greater.

<b>Broadleaf Weeds</b>	
Annual sowthistle	
Bindweed	
Buffalobur	
Burdock	
Canada thistle	
Curly dock	
Dandelion	
Dogbane (hemp)	
Field gromwell	
Fleabane	
Goldenrod	
Horsetail	
Lambsquarters	
Leafy spurge	
Mugwort	
Musk thistle	
Nettle	
Nightshade	
Pennycress	
Pigweed, red root	
Plantain	
Prickly lettuce	
Ragweed	
Russian thistle	
Tansy mustard	
Velvetleaf	
Vervain	
Virginia copperleaf	
White heath aster	
Wild buckwheat	
Wild mustard	
Wild onion	
Wild rose	
Wild turnip	
Woodsorrel	
Yellow rocket	

  

	<p><b>For Spot Applications:</b> Apply 3 fluid ounces (0.023 lb. a.i.) per gallon of water when the weed height or diameter is less than 6 inches.</p> <p>Apply 4 fluid ounces (0.03 lb. a.i.) per gallon of water when the weed height or diameter is 6 inches or greater.</p> <p><b>For Broadcast Applications:</b> Apply 4 quarts (1.0 lb. a.i.) per acre when the weed height or diameter is less than 8 inches tall.</p> <p>Apply 5 quarts (1.25 lbs. a.i.) per acre when the weed height or diameter is 8 inches or greater</p>
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<b>Grasses and Sedges</b>	
Barnyardgrass	
Cupgrass	
Fall Panicum	
Giant foxtail	
Goosegrass	
Green foxtail	
Johnsongrass (rhizome)	
Lovegrass	
Shattercane	
Smallflower	
Alexandergrass (signal grass)	
Stinkgrass	

  

	<p><b>For Spot Applications:</b> Apply 2 fluid ounces (0.02 a.i.) per gallon of water when the weed height or diameter is less than 6 inches.</p> <p>Apply 3 fluid ounces (0.023 lb. a.i.) per gallon of water when the weed height or diameter is 6 inches or greater.</p> <p><b>For Broadcast Applications:</b> Apply 3 quarts (0.75 lb. a.i.) per acre when the weed height or diameter is less than 6 inches.</p> <p>Apply 4 quarts (1.0 lb. a.i.) per acre when the weed height or diameter is 6 inches or greater.</p>
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Windgrass	
Yellow foxtail	

<b>Grasses and Sedges</b>	
Annual bluegrass	
Bahiagrass	
Barley	
Bermudagrass	
Carpetgrass	
Dallisgrass	
Downy brome	
Fescue	
Guineagrass	
Kentucky bluegrass	
Nutsedge	
Paragrass	
Quackgrass	
Ryegrass	
Sandbur	
Smooth brome	
Torpedograss	
Vaseygrass	
Wheat	
Wild oat	

**For Spot Applications:**  
Apply 3 fluid ounces (0.023 lb. a.i.) per gallon of water when the weed height or diameter is less than 6 inches.

Apply 4 fluid ounces (0.03 lb. a.i.) per gallon of water when the weed height or diameter is 6 inches or greater.

**For Broadcast Applications:**  
Apply 4 quarts (1.0 lb. a.i.) per acre when the weed height or diameter is less than 8 inches tall.

Apply 5 quarts (1.25 lbs. a.i.) per acre when the weed height or diameter is 8 inches or greater

#### Use on Woody Species

When applied as specified, CSI 19-313B Glufosinate 11.33% will provide control, partial control, or suppression of certain perennial woody weed species. Apply 2 to 5 quarts (0.5 lb. a.i. to 1.25 lb. a.i.) per acre as a spot treatment to undesirable woody plants. Use the higher specified rates per acre of this product when conditions are not optimum for spray penetration, including when vegetation growth is heavy or dense. Lower specified rates may be used when the target species is a conifer and when vegetation growth conditions allow for uniform spray coverage.

Blackberry	<i>Rubus</i> spp.
Deer brush	<i>Ceanothus integerrimus</i>
Douglas fir	<i>Pseudotsuga menziesii</i>
Gallberry	<i>Ilex</i> spp.
Hazel	<i>Corylus</i> spp.
Honeysuckle	<i>Lonicera</i> spp.
Huckleberry	<i>Caylussacia</i> spp.
Maple	<i>Acer</i> spp.
Multiflora rose	<i>Rosa multiflora</i>
Oak	<i>Quercus</i> spp.
Pine	<i>Pinus</i> spp.
Poison ivy	<i>Toxicodendron radicans</i>
Poison oak	<i>Toxicodendron toxicarium</i>
Roundleaf greenbriar	<i>Smilax rotundifolia</i>
Salmonberry	<i>Rubus spectabilis</i>
Sweet gum	<i>Liquidambar styraciflua</i>
Sumac	<i>Rhus</i> spp.
Thimbleberry	<i>Rubus parviflorus</i>
Trumpet creeper	<i>Campsis radicans</i>
Vine maple	<i>Acer circinatum</i>
Western red cedar	<i>Thuja plicata</i>

## WHERE TO APPLY

### Trimming and Edging

CSI 19-313B Glufosinate 11.33% may be used for trimming and edging landscape areas including: around individual trees and shrubs, landscape beds, foundations, fences, driveways, paths, and parking areas; also on golf courses along cart paths, around sign and light posts, and around sand traps. For control of weeds emerging from seed, the use of CSI 19-313B Glufosinate 11.33% in a tank mix with preemergence herbicides. If spraying in areas adjacent to desirable plants, use a shield made of cardboard, plywood, or sheet metal while spraying to help prevent spray from contacting foliage of desirable plants. Refer to the How to Apply section of this labeling for appropriate application rates to control specific weeds.

#### Use Restriction for Trimming and Edging:

- **DO NOT** apply this product to residential areas at a rate greater than 4 fl.oz. (0.03 lb. a.i.) per gallon per 1,000 sq.ft. per application.
- **DO NOT** apply more than 12 fluid ounces of product (0.9 lbs. a.i.) per 1,000 sq. ft. per year when applied as a combination of any type of application.
- **DO NOT** apply this product to residential areas at a rate greater than 174.24 fl.oz. (5 quarts) (1.3 lb. a.i.) per acre per application.
- **DO NOT** apply more than 522.72 fl. oz. (16 quarts) of product (4.1 lbs. a.i.) per acre per year when applied as a combination of any type of application.
- **DO NOT** apply more than 3 applications per year when using the maximum single application rate (excluding spot treatments).
- Sequential applications must be a minimum of 5 days apart in non-crop areas.

### Recreational and Public Areas

When applied as a spot or directed spray application, this product controls annual and perennial weeds listed on this label in areas including: airports, commercial plants, storage and lumber yards, educational facilities, fence lines, ditch banks, dry ditches, schools, parking lots, tank farms, pumping stations, and parks. Refer to the How to Apply section of this labeling for appropriate application rates to control specific weeds.

#### Use Restriction for Recreational and Public Areas:

- **DO NOT** apply this product to residential areas at a rate greater than 4 fl.oz. (0.03 lb. a.i.) per gallon per 1,000 sq.ft. per application.
- **DO NOT** apply more than 12 fluid ounces of product (0.9 lbs. a.i.) per 1,000 sq. ft. per year when applied as a combination of any type of application.
- **DO NOT** apply this product to residential areas at a rate greater than 174.24 fl.oz. (5 quarts) (1.3 lb. a.i.) per acre per application.
- **DO NOT** apply more than 522.72 fl. oz. (16 quarts) of product (4.1 lbs. a.i.) per acre per year when applied as a combination of any type of application.
- **DO NOT** apply more than 3 applications per year when using the maximum single application rate (excluding spot treatments).
- Sequential applications must be a minimum of 5 days apart in non-crop areas.

### Dormant Bermudagrass

CSI 19-313B Glufosinate 11.33% may be used to control winter annual weeds in well-established ornamental dormant hybrid or common bermudagrass. Apply only when the turf is fully dormant and prior to spring green-up or severe turfgrass injury or delayed green-up may occur. For best results, apply CSI 19-313B Glufosinate 11.33% at a rate of 3 to 5 quarts (0.75 lb. a.i. to 1.25 lbs. a.i.) per acre after most weeds have germinated and are in an early growth stage. Refer to the Weeds Controlled by CSI 19-313B Glufosinate 11.33% section of this label for selecting specified rates.

Applications of CSI 19-313B Glufosinate 11.33% may also be used to suppress or control undesirable biennial or perennial weeds. Avoid high volume and spot applications where spray volume exceeds 80 gallons per acre or injury or delayed green-up may occur.

**Use Restrictions for Dormant Bermudagrass:**

- **DO NOT** make more than 3 applications per year for broadcast or boom applications and no more than 2 applications per year on Dormant Bermudagrass when using reduced application rates.
- **DO NOT** apply this product to residential areas at a rate greater than 4 fl.oz. (0.03 lb. a.i.) per gallon per 1,000 sq.ft. per application.
- **DO NOT** apply more than 12 fluid ounces of product (0.9 lbs. a.i.) per 1,000 sq. ft. per year when applied as a combination of any type of application.
- **DO NOT** apply this product to residential areas at a rate greater than 174.24 fl.oz. (5 quarts) (1.3 lb. a.i.) per acre per application.
- **DO NOT** apply more than 522.72 fl. oz. (16 quarts) of product (4.1 lbs. a.i.) per acre per year when applied as a combination of any type of application.
- **DO NOT** apply more than 3 applications per year when using the maximum single application rate (excluding spot treatments).
- Sequential applications must be a minimum of 5 days apart in non-crop areas.

**Ornamentals and Christmas Trees**

When applied as directed by this label, this product may be used for the control of undesirable vegetation in site preparation prior to planting, around and within shade and greenhouses, and as a directed spray around containers and field-grown established ornamentals and Christmas trees.

**Directed spray application:** CSI 19-313B Glufosinate 11.33% may be applied as a directed spray to control in-row weeds in field-grown woody plants. Refer to the How to Apply section of this labeling for appropriate application rate to control specific weeds. This product may also be used between and around containers and in site preparation for new planting.

**Site preparation application:** This product may be used for pre-plant site preparation for the control of annual and perennial weeds listed in this label, in ornamental and Christmas tree plantings. Ornamentals and Christmas trees may be planted into the treated area after the restricted entry interval (REI) of 12 hours has elapsed. Refer to the How to Apply section of this labeling for appropriate application rates to control specific weeds.

**Use Restrictions for Ornamental and Christmas Trees:**

- **DO NOT** apply this product to residential areas at a rate greater than 4 fl.oz. (0.03 lb. a.i.) per gallon per 1,000 sq.ft. per application.
- **DO NOT** apply more than 12 fluid ounces of product (0.9 lbs. a.i.) per 1,000 sq. ft. per year when applied as a combination of any type of application.
- **DO NOT** apply this product to residential areas at a rate greater than 174.24 fl.oz. (5 quarts) (1.3 lb. a.i.) per acre per application.
- **DO NOT** apply more than 522.72 fl. oz. (16 quarts) of product (4.1 lbs. a.i.) per acre per year when applied as a combination of any type of application.
- **DO NOT** apply more than 3 applications per year when using the maximum single application rate (excluding spot treatments).
- Sequential applications must be a minimum of 5 days apart in non-crop areas.
- **DO NOT** apply directly to or allow drift to contact desirable green tissue or green, thin, or uncalloused bark of desirable vegetation or injury may result.
- **DO NOT** apply CSI 19-313B Glufosinate 11.33% as an over-the-top broadcast spray in ornamentals and shade or Christmas trees.

**Greenhouse and shade house applications**

CSI 19-313B Glufosinate 11.33% may be used to control weeds in greenhouses and shadehouses.

**Air circulation fans must be turned off during application. Apply CSI 19-313B Glufosinate 11.33% as a directed spray, using large droplet and low-pressure type nozzles.**

**Use Restrictions for Greenhouse and shade house applications:**

- **DO NOT** apply this product to residential areas at a rate greater than 4 fl.oz. (0.03 lb. a.i.) per gallon per 1,000 sq.ft. per application.
- **DO NOT** apply more than 12 fluid ounces of product (0.9 lbs. a.i.) per 1,000 sq. ft. per year when applied as a combination of any type of application.
- **DO NOT** apply this product to residential areas at a rate greater than 174.24 fl.oz. (5 quarts) (1.3 lb. a.i.) per acre per application.
- **DO NOT** apply more than 522.72 fl. oz. (16 quarts) of product (4.1 lbs. a.i.) per acre per year when applied as a combination of any type of application.
- **DO NOT** apply more than 3 applications per year when using the maximum single application rate (excluding spot treatments).
- Sequential applications must be a minimum of 5 days apart in non-crop areas.
- Avoid drift and direct contact with desirable vegetation.
- **DO NOT** use in greenhouses or shade houses containing edible crops.

**Farmsteads**

When applied as directed, this product controls undesirable plant vegetation in noncrop areas around farmstead building foundations, shelter belts, along fences, and nonselective farmstead weed control. Refer to the How to Apply section of this labeling for appropriate application rates to control specific weeds.

**Use Restrictions for Farmsteads:**

- **DO NOT** apply this product to residential areas at a rate greater than 4 fl.oz. (0.03 lb. a.i.) per gallon per 1,000 sq.ft. per application.
- **DO NOT** apply more than 12 fluid ounces of product (0.9 lbs. a.i.) per 1,000 sq. ft. per year when applied as a combination of any type of application.
- **DO NOT** apply this product to residential areas at a rate greater than 174.24 fl.oz. (5 quarts) (1.3 lb. a.i.) per acre per application.
- **DO NOT** apply more than 522.72 fl. oz. (16 quarts) of product (4.1 lbs. a.i.) per acre per year when applied as a combination of any type of application.
- **DO NOT** apply more than 3 applications per year when using the maximum single application rate (excluding spot treatments).
- Sequential applications must be a minimum of 5 days apart in non-crop areas.
- **DO NOT** allow animals intended for slaughter to graze on treated vegetation.

**STORAGE AND DISPOSAL**

**DO NOT** contaminate water, food or feed by storage or disposal.

**PESTICIDE STORAGE:** Store upright at room temperature. Avoid exposure to extreme temperatures. Store in a locked area out of reach of children and domestic animals.

**PESTICIDE DISPOSAL & CONTAINER HANDLING:** Non-refillable container. **DO NOT** reuse or refill this container. **If empty:** Place in trash or offer for recycling if available. **If partly filled:** Call your local solid waste agency for disposal instructions. Never place unused product down any indoor (including toilet) or outdoor (including sewer) drain.

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

**WARRANTY STATEMENT**

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may

result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Control Solutions, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Control Solutions, Inc. and Seller harmless for any claims relating to such factors.

To the extent consistent with applicable law, Control Solutions, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or Control Solutions, Inc., and Buyer and User assume the risk of any such use. CONTROL SOLUTIONS, INC. MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent consistent with applicable law, **IT IS CONTROL SOLUTIONS INC., AND SELLERS INTENTION THAT** in no event shall Control Solutions or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF CONTROL SOLUTIONS, INC., 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 CONTROL SOLUTIONS, INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

To the extent consistent with applicable law, Control Solutions, Inc. and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of Control Solutions, Inc.

## OPTIONAL MARKETING CLAIMS:

- Has No Soil Activity
- Fast Acting Formula Kills Actively Growing Weeds In 1-4 Days
- Fast Acting Formula
- Kills Weeds in 1-4 Days
- Kills Weeds - Roots and All
- Treated Areas Can Be Reseeded or Replanted 4 Days after Application or When Brush, Vines and Weeds Are Dead
- Rainfastness in as Little as 4 Hours for Most Species
- Rain proof in as little as 4 hours for Most Species
- Starts working in minutes
- Starts working on contact
- No roots, no weeds, no problem!
- CSI 19-313B Glufosinate 11.33% quickly kills unwanted weeds, grass and brush - roots and all. It can be used on and around walkways, driveways and patios, in flower beds and around fences, buildings, trees and shrubs.
- Kills 100+ Weeds
- One pint makes up to 8 gallons
- One quart makes up to 16 gallons
- One gallon makes up to 64 gallons
- Low odor
- Water-based formulation
- Multi-purpose weed and/& grass killer
- A all purpose weed and grass killer
- Kills undesirable weeds and grasses
- Kills [weeds & grasses] [unwanted vegetation] [right down] to the roots
- Use for site preparation for large plantings, including flower beds, fruit trees, ornamentals, vegetables, garden sites and to renovate or replace lawns
- [Kills many of the weeds you don't want] [Rid weeds] [Get rid of weeds] in flowerbeds, vegetable gardens, along fences, around trees, shrubs, driveways, walkways, in and around fences, patios, paths, sidewalks and curb cracks, walkways and trails
- Ornamentals can be planted or transplanted 4/four days following treatment
- Kills [image of] broadleaf weeds, [image of] grasses



- Single application controls [kills] most weeds
- Use in or around vegetable gardens [flower beds] [trees] [shrubs]
- [Kills existing weeds only] [Does not have residual soil activity]
- [Controls][Kills]: Annual & Perennial Weeds, Shrubs & Vines