FLAZASULFURON	GROUP	2	HERBICIDE

Katana® TURF HERBICIDE

ACTIVE INGREDIENT:	**By Wt.**
Flazasulfuron*	25.0%
OTHER INGREDIENTS:	75.0%
TOTAL	100.0%

*_N_-[[(4,6-dimethoxy-2-pyrimidinyl) amino]carbonyl]-3-(trifluoromethyl)-2-pyridinesulfonamide.

Contains 0.25 pounds active ingredient per pound of formulated product.

KEEP OUT OF REACH OF CHILDREN

CAUTION

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

READ ENTIRE LABEL CAREFULLY AND USE ONLY AS DIRECTED.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION: Harmful, if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing.

FIRST AID	
If swallowed:	• Call a poison control center or doctor for treatment 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 by mouth to an unconscious person.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If inhaled:	• 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.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. **HOT LINE NUMBER:** For **24-Hour Medical Emergency Assistance** call **1-877-800-5556**.	

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear**:** long-sleeved shirt and long pants, shoes plus socks, protective eyewear and chemical resistant gloves made of any waterproof material.

USER SAFETY REQUIREMENTS

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 exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- 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 contaminate water when cleaning equipment or disposing of equipment wash waters or rinsate.

SURFACE WATER ADVISORY

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for weeks after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of flazasulfuron from runoff water and sediment. Runoff of this product will be greatly reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

NON-TARGET ORGANISM ADVISORY

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area. Protect the forage and habitat of non-target organisms by minimizing spray drift. For further guidance and instructions on how to minimize spray drift, refer to the Spray Drift Management section of this label.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

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. 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 interval. 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 made of any waterproof materials, and shoes plus socks.

Sod and seed farms are within the scope of the Worker Protection Standard.

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. Turf grasses on golf courses, residential sites and other turf areas including industrial parks, tank farms, professionally managed sports fields and commercial lawns are not within the scope of the Worker Protection Standard. Do not enter or allow others to enter the treated area until sprays have dried.

1. USE INFORMATION

Flazasulfuron is a selective herbicide for removal of overseeded cool-season grasses as well as control of annual and perennial grasses, sedges, and broadleaf weeds in Bermudagrass, Zoysiagrass, Buffalograss, Centipedegrass, Seashore Paspalum, and certain other warm-season turfgrasses. This product has post-emergence and some pre-emergence activity. Katana Turf Herbicide may be used on golf courses (fairways, roughs, greens, tees, collars, and approaches) and the following turf areas: industrial parks, tank farms, sod farms, seed farms, cemeteries, professionally managed sports fields, commercial turf, and residential turf.

Katana Turf Herbicide is formulated as a water dispersible granule (WG) and contains 0.25 pounds of active ingredient per pound of formulated product.

Katana Turf Herbicide controls weeds by inhibiting the acetolactate synthase (ALS) biochemical process. Weed growth stops within hours after the application, however symptom progress from discoloration or chlorosis to necrosis generally requires from 3 to 6 weeks. Speed of control is generally a function of weather with faster action during warmer weather and actively growing weeds and turf.

2. WEED RESISTANCE MANAGEMENT

For resistance management, Katana Turf Herbicide is a Group 2 herbicide. Any weed population may contain or develop plants naturally resistant to Katana Turf Herbicide and other Group 2 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same area. To help reduce selection of ALS (Group 2) resistant weeds, it is important to always apply a labeled rate of Katana Turf Herbicide at the application timing specified in this label. Appropriate resistance management strategies should be followed.

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

- Rotate the use of Katana Turf Herbicide or other Group 2 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds.
- Use tank mixtures with herbicides from a different group; 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 pest control advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Difficult to control weeds may require sequential applications of herbicides with differing modes of action.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use, and that considers other management practices.
- Users should scout before and after application. Contact your local sales representative, or university extension agent to determine if there is suspected ALS (Group 2) resistant weed populations in your region. If ALS (Group 2) resistant weed populations have been reported in your region, use the maximum rate of Katana Turf Herbicide for the labeled use and also include additional herbicides with effective modes of action in the tank mix to control the target weed population.

- Scout 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. Prevent movement of resistant weed seeds by cleaning equipment.
- If a weed pest population continues to progress after treatment with this product, either discontinue use of this product, switch to another management strategy or tank mix with an herbicide with a different mode of action, if available.
- Contact your local extension specialist or pest control advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific types of turf and weed biotypes.

Report any incidence of non-performance of this product against a particular weed species to your retailer representative or call PBI-Gordon Corporation at 877-800-5556. If resistance is suspected, treat weed escapes with an 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.

Finally, to prevent or delay the selection of additional ALS inhibitor resistant weed species, it is extremely important to approach weed control with an integrated weed management (IWM) plan. Contact your local sales representative or university extension agent for help to create or to learn how to develop an IWM plan.

3. APPLICATION RESTRICTIONS

- Do not apply Katana Turf Herbicide aerially.
- Do not apply Katana Turf Herbicide through any irrigation system.
- Repeat applications may be made at 2 – 6 weeks after the application for optimum weed control.
- Use only on turfgrasses listed below (unless listed under weeds controlled) or severe injury may result.
- Do not apply to new seeded, sodded or sprigged turfgrass until well established.
- Allow at least 2 weeks from the last application to the time of overseeding when applied at 1.5 oz/A (0.023 lb AI/acre). Allow 4 weeks for rates above 1.5 oz/A (0.023 lb AI/acre).
- Do not plant back another crop (other than turfgrass) in Katana Turf Herbicide treated areas for one year.
- Golf green treatments are restricted to Bermudagrass and seashore paspalum only.
- Some ornamental shrubs, plants and trees may be sensitive to Flazasulfuron. Do not make applications that would result in direct contact or accumulation under the dripline of sensitive plants.
- Do not use fresh clippings from treated areas as mulch around trees, shrubs, or in vegetable/flower gardens.
- Do not apply when grasses are under stress as injury may occur.
- Make applications to actively growing weeds and turf.
- Do not apply to saturated turf/soils.
- Do not apply to hydrophobic soils or turfgrass with excessive thatch accumulation, unless thorough aeration has been completed prior to application.
- Maintain a 25 foot buffer between sensitive grasses/plants and the treated area.
- Do not apply this product directly to, or otherwise permit drift or spray mist to come into contact with cotton, legumes, tobacco, garden/vegetable crops, flowers, ornamental plants, shrubs, trees, and other desirable or sensitive plants. Do not apply to exposed roots of shallow rooted trees and shrubs. Be particularly careful not to overdose under the dripline of trees.

USE PRECAUTIONS AROUND SENSITIVE GRASSES

- Use extreme caution when applying this product to slopes that drain onto sensitive turfgrasses including bentgrass, ryegrass, and *Poa trivialis*.
- The product needs to be dry on the leaf surface prior to allowing traffic on the treated area.
- Irrigation is not advised within 6 hours after the application. However, for the next two mornings after application, if dew is present, irrigate lightly (0.1 – 0.2 inches) to remove the dew.

4. MANDATORY SPRAY DRIFT

Ground Boom Applications to Turf Sites

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy unless making a turf, pasture, or rangeland application, in which case applicators may apply with a nozzle height no more than 4 feet above the ground.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a Coarse or coarser droplet size (ASABE S572.1).
- For all other applications, applicators are required to use a Medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

Boom-less Ground Applications to Turf Sites

- Applicators are required to use a Medium or coarser droplet size (ASABE S572.1) for all applications.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

SPRAY DRIFT ADVISORIES

Boom-less Ground Applications

- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications

- Take precautions to minimize spray drift.

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target weed control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

BOOM HEIGHT – Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the terrain and have minimal bounce.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source. 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. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

WINDBLOWN SOIL PARTICLES ADVISORY

Katana Turf Herbicide has the potential to move off-site due to wind erosion. Soils that are subject to wind erosion usually have a high silt and/or fine to very fine sand fractions and low organic matter content. Other factors which can affects the movement of windblown soil include the intensity and direction of prevailing winds, vegetative cover, site slope, rainfall, and drainage patterns. Avoid applying Katana Turf Herbicide if prevailing local conditions may be expected to result in off-site movement.

5. MIXING AND LOADING INSTRUCTIONS

Ensure the spray system is clean and free of residues from previous applications. Fill the spray tank 1/2 full with clean water. Ensure the agitation system is operating and sufficient to provide uniform spray mixing during application and until the spray tank has been emptied. Add the appropriate amount of this product to the spray tank. Complete filling the spray tank to the desired level.

Prepare no more spray mixture than is needed for the immediate application. Avoid the overnight storage of Katana Turf Herbicide spray mixtures.

Tank Mixtures

Katana Turf Herbicide may be tank mixed with most herbicides registered for use on labeled turfgrasses. 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. Katana Turf Herbicide is generally compatible with non-organophosphate insecticides, fertilizers and micronutrient products provided sufficient free water is available for dispersion of all the tank mix products. However, the physical compatibility of Katana Turf Herbicide with tank mix partners need to be evaluated before use. Use tank-mix combinations only when applicator experience indicates that the tank mix will not result in objectionable turf injury.

The following active ingredients have provided improved weed control in tank mixtures with Katana Turf Herbicide: 2,4-D, mecoprop-p, dicamba, carfentrazone (e.g., SpeedZone®, SpeedZone® Southern); 2,4-D, mecoprop-p, dicamba (e.g., Trimec® Classic, Trimec® Southern); quinclorac (e.g., Drive®); dithiopyr (e.g., Dimension®); prodiamine (e.g., Barricade); and pendimethalin.

For tank mixtures, add individual components to the spray tank in the following sequence: water, water dispersible granules (this product), water-soluble bags, dry flowables, emulsifiable concentrates, drift control additives, water-soluble liquids, and nonionic surfactants.

Katana Turf Herbicide Tank Mix Partner	Additional Value
2,4-D, mecoprop-p, dicamba, carfentrazone (e.g., SpeedZone, SpeedZone Southern)	Enhanced Speed Additional Broadleaf Weed Control
2,4-D, mecoprop-p, dicamba (e.g., Trimec Southern, Trimec Classic)	Additional Broadleaf Weed Control
Quinclorac	Additional Grass Control Additional Broadleaf Weed Control
Dithiopyr (e.g., Dimension)	Pre-emergent Grass Control Early Post-emergent Crabgrass Control
Prodiamine	Pre-Emergent Annual Grass Control
Pendimethalin	Pre-Emergent Annual Grass Control

Adjuvant Use Requirements
The use of a non-ionic surfactant at 0.25 percent by volume (1 qt/100 gal) provides maximum performance.

Spray Equipment Clean Out:
After spraying Katana Turf Herbicide and before using sprayer equipment for any other applications, the sprayer must be thoroughly cleaned using the following procedure.

1. Drain tank; thoroughly rinse inside of spray tanks with clean water (rinse about 1 minute per 25 gallons of tank capacity). Loosen and physically remove any visible deposits with a stiff brush.
2. Fill the tank with clean water and add 1 gallon of household ammonia (contains 3% active) for every 100 gallons of water. Circulate the cleaning solution through the tank and hoses for at least 15 minutes. Flush the cleaning solution through the hoses, boom and nozzles (1/4 volume of tank capacity) and then drain the tank.
3. Repeat step 1.
4. Repeat step 2.
5. Remove the nozzles and screen and clean separately in a bucket containing cleaning agent and water.
6. Rinse the tank, boom and hoses with clean water.
7. If only ammonia is used as a cleaner, the rinsate solution from both steps 2 and 4 may be applied back to the crop as specified on the label. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

(Attention: A dangerous gas will form if Chlorine bleach is mixed with ammonia.)

6. APPLICATION INFORMATION

Rainfastness: One inch of rainfall within 3 to 6 hours of application may result in reduced weed control or require reapplication.

6.1 ALL SPECIFIED APPLICATION SITES

Broadcast: Katana Turf Herbicide may be applied as a broadcast treatment in a minimum of 20 gallons of water per acre. Higher spray volumes of 60 to 174 gallons of water per acre are advised where weed populations are dense or with adverse growing conditions. See below for use rates.

Spot Treatments With Pump-up or Backpack Sprayers: Dissolve 0.03 to 0.068 oz (1 to 2 grams = ¼ to ½ teaspoon) of Katana Turf Herbicide per 1 gallon of water, add 1 teaspoon of a nonionic surfactant and spray mixture at a rate of 1 gallon per 1000 sq. ft. If needed for hard-to-control weeds, retreat in 3-4 weeks. (See specific weed application rates below)

6.2 TURFGRASS SPECIES WHICH MAY BE TREATED

Bermudagrass, Buffalograss, Zoysiagrass, Centipedegrass, Seashore Paspalum, and Certain Other Warm-Season Turfgrasses*

Turfgrass Sensitivity
Katana Turf Herbicide may be used on the following warm-season established turfgrass cultivars

Bermudagrass*: Champion, Common, FloraDwarf, Midiron, MS Express, MS Supreme, Princess, Quickstand, Riviera, Sahara, TifDwarf, TifEagle, Tifsport, Tifway 419, TifGreen 328, Vamont, Yukon

Buffalograss*

Zoysiagrass*: Common, Emerald, El Toro, Meyer

Centipedegrass: Application during spring and fall transition will cause unacceptable injury to centipedegrass.

Restrictions: Do not apply more than 1.5 oz/acre (0.023 lbs ai/acre) per application to fully green, actively growing turf. Do not apply more than 3 applications per year. Do not apply more than 4.5 oz/acre per year (0.07 lbs ai/acre/year). The minimum interval between applications is 28 days.

Seashore Paspalum**: For weed control, seedhead suppression and growth suppression, use a maximum rate of 1.5 oz/A to fully green, actively growing turf. Application during spring and fall transition will cause unacceptable injury to seashore paspalum.

- Expect some turf discoloration approximately 2 weeks after application.
- Expect up to 80% seedhead suppression and expect growth suppression (60 to 80% clipping reduction) for up to 4 weeks. Actual results will depend upon environmental conditions before, during and after application.
- The use of Katana Turf Herbicide with urea based fertilizer may result in unacceptable injury to Seashore Paspalum.
- Maintain healthy turfgrass before and after applications.
- Always irrigate stressed turf prior to application of Katana Turf Herbicide.

Tank-mixing with trinexapac-ethyl (Primo MAXX®) during active growth may improve Seashore Paspalum quality (golf course fairways).

Restrictions: Do not apply more than 1.5 oz/acre (0.023 lbs ai/acre) per application. Do not apply more than 3 applications per year. Do not apply more than 4.5 oz/acre per year (0.07 lbs ai/acre/year). The minimum interval between applications is 28 days.

*Other cultivars need to be tested on a small area to determine sensitivity prior to large scale use.
**All cultivars need to be tested on a small area to determine sensitivity prior to large scale use.

Other warm season grasses including Argentine Bahiagrass, Carpetgrass, St. Augustinegrass are sensitive.

Cool season grasses including as Ryegrass, Fescue, Bentgrass and Kentucky Bluegrass are sensitive.

6.3 INSTRUCTIONS FOR SPECIFIC WEED CONTROL SITUATIONS

Removal of Overseeded Cool-Season Turfgrass from listed warm-season turfgrasses
Acceptable sites include golf course fairways, roughs, greens, tees, collars, and approaches that have been overseeded with cool-season turfgrass. Katana Turf Herbicide may also be used on sports fields and commercial turf that have been overseeded with cool-season turfgrass.

Species Controlled	Application Rate	Spray Volume
Perennial ryegrass	0.5 to 1.5 oz/acre 0.011 to 0.034 oz/1,000 sq.ft. (0.008 to 0.023 lb AI/acre)	0.46 to 4 gal/1000 sq.ft. (20 to 174 gal/acre)
Italian (annual) ryegrass	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Poa trivialis	2.25 to 3.0 oz/acre 0.051 to 0.068 oz/1000 sq.ft. (0.035 to 0.047 lb AI/acre)	

Note: Applications for spring transition do not negatively impact Bermudagrass greenup. Katana Turf Herbicide shows a slight rate response with control occurring within 3-4 weeks after the application with the highest labeled rate giving better and faster control. Therefore, the Bermudagrass or zoysiagrass turf needs to be at 50 to 60% greenup at the time of the application for optimal maintenance of a green turf situation.

Adjuvant Use Requirements
The use of a non-ionic surfactant at 0.25 percent by volume (1 qt/100 gal) provides maximum performance.

Restrictions: Do not apply more than 3.0 oz/acre (0.047 lbs ai/acre) per application. Do not apply more than 3 applications per year. Do not apply more than 9.0 oz/acre per year (0.14 lbs ai/acre/year). The minimum interval between applications is 21 days for spot control treatment of hard-to-control weeds. The minimum interval between applications is 28 days for broadcast applications.

Removal of volunteer cool-season grasses from listed warm-season turfgrasses

Species Controlled	Application Rate	Spray Volume
Volunteer Ryegrass (clumpy ryegrass)	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	0.46 to 4 gal/1000 sq.ft. (20 to 174 gal/acre)
Tall Fescue	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	

Katana Turf Herbicide shows a slight rate response with the highest labeled rate giving better and faster control.

Adjuvant Use Requirements
The use of a non-ionic surfactant at 0.25 percent by volume (1 qt/100 gal) provides maximum performance.

Restrictions: Do not apply more than 3.0 oz/acre (0.047 lbs ai/acre) per application. Do not apply more than 3 applications per year. Do not apply more than 9.0 oz/acre per year (0.14 lbs ai/acre/year). The minimum interval between applications is 21 days for spot control treatment of hard-to-control weeds. The minimum interval between applications is 28 days for broadcast applications.

Removal of Kyllingas and Sedges from listed warm-season turfgrasses

Species Controlled	Application Rate	Spray Volume
Kyllingas (green, false-green, cocks-comb and fragrant)	1.5 – 2.25 oz/acre 0.034 – 0.051 oz/1,000 sq.ft. (0.023 to 0.035 lb AI/acre)	0.46 to 4 gal/1000 sq.ft. (20 to 174 gal/acre)
Sedges: (annual, globe, and yellow nutsedge)*	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Sedges: (purple nutsedge, cylindric and rice flatsedge)**	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	

*Repeat applications at 4 weeks may be necessary for new growth and consistent, long-term control.
**Repeat applications at 4 weeks are necessary for new growth and consistent, long-term control.

Adjuvant Use Requirements
The use of a non-ionic surfactant at 0.25 percent by volume (1 qt/100 gal) provides maximum performance.

Restrictions: Do not apply more than 3.0 oz/acre (0.047 lbs ai/acre) per application. Do not apply more than 3 applications per year. Do not apply more than 9.0 oz/acre per year (0.14 lbs ai/acre/year). The minimum interval between applications is 21 days for spot control treatment of hard-to-control weeds. The minimum interval between applications is 28 days for broadcast applications.

Removal of Annual bluegrass (Poa annua) from listed warm-season turfgrasses

Katana Turf Herbicide used without urea nitrogen (46-0-0)		
Species Controlled	**Application Rate**	**Spray Volume**
Annual Bluegrass (*Poa annua*)	2.5 – 3.0 oz/acre 0.057 – 0.068 oz/1,000 sq.ft. (0.039 to 0.047 lb AI/acre)	0.46 to 4 gal/1000 sq.ft. (20 to 174 gal/acre)

Applications made in the spring provide the best control. Applications made in the fall or winter seasons are slightly less effective.

Adjuvant Use Requirements
The use of a non-ionic surfactant at 0.25 percent by volume (1 qt/100 gal) provides maximum performance.

Restrictions: Do not apply more than 3.0 oz/acre (0.047 lbs ai/acre) per application. Do not apply more than 3 applications per year. Do not apply more than 9.0 oz/acre per year (0.14 lbs ai/acre/year). The minimum interval between applications is 21 days for spot control treatment of hard-to-control weeds. The minimum interval between applications is 28 days for broadcast applications.

7. Rate Table For Weed Control (Quick-view)

Katana Turf Herbicide may be applied at rates from 1.5 to 3.0 oz/A (0.023 to 0.047 lb AI/acre) for control of a large number of grass, sedge and broadleaf weeds. The maximum single application rate is 3.0 oz/A (0.047 lbs. a.i./acre). Broadcast applications must not exceed 0.068 oz per 1000 sq ft or 3.0 oz/A per application (0.047 lb AI/acre), with a maximum of three applications per year (9.0 oz of product/season or 0.14 lbs. a.i./acre/year). Some difficult to control weeds may require multiple applications. For best control apply Katana Turf Herbicide to grass and sedge weeds prior to initial tillering and when broadleaf weeds are young and actively growing.

Weed Species Controlled	Application Rate	Spray Volume
American burnweed	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	0.46 to 4 gal/1000 sq.ft. (20 to 174 gal/acre)
Barnyardgrass	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	
Black medic	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Blue-eyed grass	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Bluegrass, annual (*Poa annua*)	See specific directions above	
Bluegrass, roughstalk (*Poa trivialis*)	2.25 to 3 oz/acre 0.051 to 0.068 oz/1000 sq.ft. (0.035 to 0.047 lb AI/acre)	
Bristly mallow	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Carolina geranium	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Catsear dandelion	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Chamberbitter	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Common chickweed	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Common periwinkle	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Common vetch	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Crabgrass, smooth (< 4 leaf stage of growth)	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	
Crabgrass, southern	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Cutleaf eveningprimrose	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	
Dandelion	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	
Dogfennel	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Field madder	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	
Field pansy	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Hairy bittercress	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Hard fescue	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	
Henbit	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Japanese honeysuckle	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Kyllinga, cocks-comb	1.5 – 2.25 oz/acre 0.034 – 0.051 oz/1,000 sq.ft. (0.023 to 0.035 lb AI/acre)	
Kyllinga, false-green	1.5 – 2.25 oz/acre 0.034 – 0.051 oz/1,000 sq.ft. (0.023 to 0.035 lb AI/acre)	
Kyllinga, fragrant	1.5 – 2.25 oz/acre 0.034 – 0.051 oz/1,000 sq.ft. (0.023 to 0.035 lb AI/acre)	
Kyllinga, green	1.5 – 2.25 oz/acre 0.034 – 0.051 oz/1,000 sq.ft. (0.023 to 0.035 lb AI/acre)	
Large hop clover	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Lawn burweed	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Mouse-ear chickweed	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Narrow-leaf blue-eyed grass	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Nutsedge, purple*	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	
Nutsedge, yellow**	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Parsely-piert	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Path Rush (partial control)***	2.5 – 3.0 oz/acre 0.056 – 0.068 oz/1,000 sq.ft. (0.039 to 0.047 lb AI/acre)	
Purple deadnettle	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	
Quackgrass	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Rattail fescue	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Rescuegrass***	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Rice flatsedge*	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	
Ryegrass, Italian (annual)	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	

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Weed Species Controlled	Application Rate	Spray Volume
Ryegrass, perennial (clumpy & volunteer)	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	0.46 to 4 gal/1000 sq.ft. (20 to 174 gal/acre)
Ryegrass, perennial (transition)	0.5 - 1.5 oz/acre 0.011 - 0.034 oz/1,000 sq.ft. (0.008 to 0.023 lb AI/acre)	
Sandbur***	2.0 – 3.0 oz/acre 0.045 – 0.068 oz/1,000 sq.ft. (0.031 to 0.047 lb AI/acre)	
Sedge, cylindric*	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	
Sedge, annual	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Sedge, globe	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Sicklepod	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Slender aster	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Southwest bedstraw	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Sowthistle	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Spotted spurge (partial control)	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	
Sticky chickweed	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Swinegrass	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Tall fescue	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Wandering cudweed	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	
White clover	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Wild Violet	1.5 oz/acre 0.034 oz/1000 sq.ft. (0.023 lb AI/acre)	
Yellow rocket	1.5 – 3.0 oz/acre 0.034 – 0.068 oz/1,000 sq.ft. (0.023 to 0.047 lb AI/acre)	
Yellow woodsorrel	3.0 oz/acre 0.068 oz/1000 sq.ft. (0.047 lb AI/acre)	

Partial control means good activity, but not always at a level considered commercially acceptable.

*Repeat applications at 4 week intervals (up to 3 applications per year) are necessary for new growth and consistent long-term control.

**Repeat applications at 4 week intervals (up to 3 applications per year) may be necessary for new growth and consistent long-term control.

***Not for use in California.

Adjuvant Use Requirements
The use of a non-ionic surfactant at 0.25 percent by volume (1 qt/100 gal) provides maximum performance.

Restrictions: Do not apply more than 3.0 oz/acre (0.047 lbs ai/acre) per application. Do not apply more than 3 applications per year. Do not apply more than 9.0 oz/acre per year (0.14 lbs ai/acre/year). The minimum interval between applications is 21 days for spot control treatment of hard-to-control weeds. The minimum interval between applications is 28 days for broadcast applications.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage
Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, fold and roll back bags, clamp and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

To confine spill: Cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal
Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal:
Nonrefillable container. DO NOT reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 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 two more times. Then offer for recycling if available or dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

WARRANTY AND LIMITATION OF DAMAGES

Seller warrants to those persons lawfully acquiring title to this product that at the time of first sale of this product by Seller that this product conformed to its chemical description and was reasonably fit for the purposes stated on the label when used in accordance with Seller's directions under normal conditions of use, and Buyers and users of this product assume the risk of any use contrary to such directions. **TO THE FULLEST EXTENT PERMITTED BY LAW, EXCEPT AS PROVIDED ELSEWHERE IN WRITING CONTAINING AN EXPRESS REFERENCE TO THIS WARRANTY AND LIMITATION OF DAMAGES, SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OR GUARANTY, INCLUDING ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO.** To the fullest extent permitted by law, in no event shall Seller's liability for any breach of warranty or guaranty exceed the purchase price of the product as to which a claim is made. To the fullest extent permitted by law, buyers and users of this product are responsible for all loss or damage from use or handling of this product which results from conditions beyond the control of Seller, including, but not limited to, incompatibility with other products unless otherwise expressly provided in Directions for Use of this product, weather conditions, cultural practices, moisture conditions or other environmental conditions outside of the ranges that are generally recognized as being conducive to good agricultural and/or horticultural practices.

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