OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION
WASHINGTON, D.C. 20460

July 18, 2024

Catherine Rice
Product Registration Manager
FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104

Subject: Label Amendment - Registration Review Mitigation for Sulfentrazone
Product Name: SULFENTRAZONE 4F ROW HERBICIDE
EPA Registration Number: 279-3295
Application Date: November 19, 2018, and July 16, 2024
Decision Number: 596015

Dear Catherine Rice:

The Agency, in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Sulfentrazone Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

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 Assurance.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling and must be used at your next label printing. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

If you have any questions about this letter, please contact Caleb Carr by phone at (202) 566-0636, or via email at carr.caleb@epa.gov.

Sincerely,

Linda Arrington, Branch Chief
Risk Management and Implementation Branch 4
Pesticide Re-Evaluation Division
Office of Pesticide Programs

ENCLOSURE: Stamped label

NOTE to EPA Product Manager: Text in brackets [ ] is optional.

SULFENTRAZONE	GROUP	14	HERBICIDE

Sulfentrazone 4F ROW Herbicide

[Alternate Brand Names]

- **Ambition$_1$ Herbicide**
- **Associate Herbicide**
- **Dismiss Herbicide**
- **Dismiss Turf Herbicide**
- **Portfolio 4SC Herbicide**
- **Portfolio IVM Herbicide**

[For Selective Weed Control in [in turf] in [other non-crop sites such as] Railroad, Highway, Roadside, Pipeline and Utility Rights-of-Way, Industrial Areas, Fence Rows]

[For Selective Weed Control in Turf Sites Including]

- **[Residential and Institutional Lawns, Athletic Fields,** Commercial Sod Farms, Golf Course Fairways and Roughs]
- **[Container and Field Grown Ornamentals]**

EPA Reg. No 279-3295 **EPA Est. 279-**

Active Ingredient:	**By Wt.**
Sulfentrazone……	39.6%
Other Ingredients:……..……..	60.4%
	100.0%

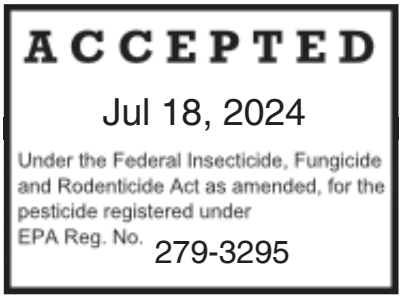
Contains 4.0 lbs sulfentrazone per gallon product.

KEEP OUT OF REACH OF CHILDREN
CAUTION
See [other][additional][[side][front][back]panels] [[inside] booklet] for additional precautionary information.

FMC Corporation
2929 Walnut Street
Philadelphia PA 19104

[Always read and follow label directions]

Net Contents:



[PEEL BACK BOOK HERE]

FIRST AID	
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.
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 SWALLOWED	• Call a poison control center or doctor immediately for treatment advice. • Do not give any liquid to the person. • 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.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-331-3148 for emergency medical treatment information.	

For Technical Support or information regarding the use of this product, call 1-800-321-1FMC(1362)

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Causes moderate eye irritation. Harmful if inhaled, swallowed, or absorbed through skin. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks.

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

User Safety Recommendations:

Users should:

• Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Environmental Hazards

This pesticide is toxic to non-target plants and aquatic invertebrates. This product may contaminate water through drift of spray in wind or via runoff events. Use care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from target area. Do not contaminate water when disposing of equipment washwaters or rinsate.

Groundwater advisory: Sulfentrazone is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Do not use on coarse soils classified as sand which have less than 1% organic matter.

Surface water advisory: Sulfentrazone can contaminate surface water through spray drift. Under some conditions, sulfentrazone may also have a high potential for runoff into surface water (primarily via dissolution in runoff water), for several to many months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-lying tile drainage systems that drain to surface waters.

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 through any type of irrigation system.

Applicators must not exceed labeled rates of this product. Refer to specific directions for use for maximum use rates. Calculate the 12-month period for the purpose of maximum use rates when Sulfentrazone 4F Row Herbicide is first applied.

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. These requirements 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, such as plants, soil, or water, is:

- Coveralls over long-sleeved shirt and long pants,
- waterproof gloves, and
- shoes plus socks.

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.

Re-entry Statement: Do not allow people (other than applicator) or pets on treatment area during application. Do not enter treatment area until spray has dried.

PRODUCT INFORMATION
Sulfentrazone 4F ROW herbicide is {*Note to reviewer: One or both of the following will be used depending on the uses listed on the commercial label*}

- A selective preemergence and post emergence herbicide which controls annual grasses and broadleaf weeds in established turf areas including, but not limited to, residential and institutional

lawns, athletic fields, commercial sod farms, golf course fairways and golf course roughs as well as Container and Field Grown Ornamentals.
- A selective soil-applied herbicide for the control of certain broadleaf weeds, grasses, and sedges. When applied according to directions, it will provide control of susceptible species. {*Note to Reviewer: this is the language for IMV uses}*

Sulfentrazone 4F ROW herbicide is formulated as a flowable (suspension concentrate) containing 4 lbs of active ingredient per gallon. The mode of action of Sulfentrazone 4F ROW herbicide involves uptake by both weed roots and shoots. Preemergence application of Sulfentrazone 4F ROW herbicide requires soil moisture for activation. The amount of soil moisture required for activation following application depends on existing soil moisture, organic matter content and soil texture.

WEED RESISTANCE MANAGEMENT
For resistance management, Sulfentrazone 4F Row Herbicide is a Group 14/[Sulfentrazone] herbicide. Any weed population may contain or develop plants naturally resistant to Sulfentrazone 4F Row Herbicide and other Group 14 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same area. Appropriate resistance management strategies should be followed.

To delay herbicide resistance take one or more of the following steps:
- Rotate the use of Sulfentrazone 4F Row Herbicide or other Group 14 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 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 pest control 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 use and that considers mechanical control methods, cultural (e.g., timing to favor the turf and not the weeds), biological (weed-competitive varieties) and other management practices.
- Scout area before herbicide application for identification of species and sizes.
- 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 to other areas by cleaning equipment.
- 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 pest control advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific types of turf and weed biotypes.

For further information or to report suspected resistance, contact call 800-321-1FMC(1362) [or visit www.fmcprosolutions.com]. You can also contact your pesticide distributor or university extension specialist to report resistance.

MIXING AND APPLICATION INSTRUCTIONS
General Handling Instructions

This product may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas.

Operations that involve mixing, loading, rinsing or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well, are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rainwater that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above specific minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

Product must be used in a manner which will prevent back siphoning in wells, spills or improper disposal of excess pesticide, spray mixtures or rinsates.

SPRAY TANK PREPARATION
It is important that spray equipment is clean and free of existing pesticide deposits before using this product. Follow the spray tank clean out procedures specified on the label of product previously applied before adding Sulfentrazone 4F ROW to the tank.

Sulfentrazone 4F ROW is a suspension concentrate intended for dilution with water. In certain applications, liquid fertilizer may replace water as diluent.

MIXING WITH WATER
For best results, fill spray tank with one half of the volume of clean water needed for the area to be treated. Start agitation system. Slowly add Sulfentrazone 4F ROW to the spray tank. Complete filling the spray tank to the desired level. Continuous spray tank agitation is required at all times to maintain a uniform spray solution. Make sure Sulfentrazone 4F ROW is thoroughly mixed before application or before adding another product to the spray tank.

USE OF SURFACTANTS
Temporary discoloration of some turf types may result from use of surfactants or adjuvants with Sulfentrazone 4F ROW. High temperatures and high relative humidity may increase the risk of temporary discoloration. Use of surfactants is not recommended.

MIXING WITH LIQUID FERTILIZERS
Utilize local recommendations for sources and rates of fertilizer and refer to mixing directions on the fertilizer labels (e.g. UAN or urea solutions). Determine the compatibility of this product with the desired fluid fertilizer by mixing small proportional quantities in advance (See the “TANK MIXTURES COMPATIBILITY” section below).

TANK MIXTURE COMPATIBILITY
Sulfentrazone 4F ROW is believed to be compatible with most herbicides, fungicides, insecticides, growth regulators, liquid fertilizers and spray adjuvants commonly used in turf and ornamental plant management. However, when preparing a new tank mix conduct an appropriate compatibility test by mixing proportional amounts of all spray ingredients in a test vessel (jar) prior to tank mixing with other products. Shake the mixture vigorously and allow it to stand for five to ten minutes. Rapid precipitation of the ingredients and failure to re-suspend when shaken indicates that the mixture is incompatible and should not be applied.

Provided the jar test indicates the mixture to be compatible, prepare the tank mixture as follows: Fill the tank one fourth full with water. With the agitator operating, add the recommended amounts of ingredients using the following order: dry granules first, and liquid suspensions (flowables) second. As the agitation continues and the tank is filled with water add EC products third followed by the addition of water soluble products.

Read and observe mixing instructions of all tank mix partners. Also read each product's label for Directions for Use, Precautionary Statements and Restrictions and Limitations. The most restrictive labeling applies in all tank mixtures. No label dosage rate should be exceeded. Tank mixture recommendations are for use only in states where the companion products and application site are registered. In addition, certain states or geographical regions may have established dosage rate limitations. Consult your state Pesticide Control Agency for additional information regarding the maximum use rates.

Premixing Sulfentrazone 4F ROW spray solutions in nurse tanks is not recommended.

Ground Equipment

Power sprayers: Uniform and accurate spray coverage requires proper calibration and operation of spray equipment. The use of marker dyes or foams can improve application accuracy. Boom sprayers equipped with appropriate flat fan nozzles, tips and screens are ideal for broadcast applications. Power sprayers fitted with spray wand/gun may also be used for broadcast application after careful calibration by the applicator. Power sprayers fitted with spray wand/gun are suitable for spot treatments.

Hand operated sprayers: Backpack and compression sprayers are appropriate for small turfgrass areas and spot treatments. Wands fitted with a flat fan nozzle tip should be held stationary at the proper height during application. A side to side or swinging arm motion can result in uneven coverage.

Apply this product in a sufficient volume of carrier solution to provide a uniform spray distribution. Spray volumes of 20 – 175 gallons per acre (0.5 to 4.0 gal/1,000 ft^2) with spray pressures adjusted to 20 – 40 psi are appropriate. Apply the higher spray volumes for dense weed populations.

Sprayer Equipment Clean-Out

After spraying Sulfentrazone 4F ROW and before using sprayer equipment for any other applications, the sprayer must be thoroughly cleaned using the following procedure:

1. Drain sprayer tank, hoses, and spray boom and thoroughly rinse the inside of the sprayer tank with clean water to remove sediment and residues. In addition, thoroughly flush sprayer hoses, boom, and nozzles with clean water.
2. Fill the tank 1/2 full with clean water and add appropriate detergent or ammonia (follow manufacturer's directions for use). Fill the tank to capacity and operate the sprayer for 15 minutes to flush hoses, boom, and nozzles.
3. Drain the sprayer system. Rinse the tank with clean water and flush through the hoses, boom, and nozzles. Remove and clean spray tips and screens separately.
4. Properly dispose of all cleaning solution and rinsate in accordance with Federal, State and local regulations and guidelines.

Do not drain or flush equipment on or near desirable trees or plants. Do not contaminate any body of water including irrigation water that may be used on other plants.

SPARY DRIFT MANAGEMENT

MANDATORY SPRAY DRIFT MANAGEMENT

- Select nozzles and application pressure that deliver medium to coarse or larger spray droplets as indicated in the nozzle manufacturer's recommendations and in accordance with ASABE* Standard S-572.
- Select coarse to very coarse droplet size when sulfentrazone is used as a preemergent/preplant application.

- Select medium to very coarse droplet size when sulfentrazone is used postemergence with a contact burndown herbicide.
- Applicators may spray only when wind speed is between 3 and 10 mph.
- Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE* standard).

Ground Applications:

- For boom spraying, the maximum release height must be 30 inches from the soil.
- Ground applicators must use a minimum finished spray volume of 10 gallons per acre.
- When sulfentrazone is tank mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre.

{Note to Reviewer: The following information is only required if the commercial label includes aerial uses (i.e., IVM)}

Aerial Applications:

- Aerial application is allowed only when environmental conditions prohibit ground application.
- The maximum release height must be 10 feet from the top of the canopy, unless a greater application height is required for pilot safety.
- When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.

For all aerial application except for to forestry applications, public health uses or to applications using dry formulations. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most nozzles on the boom must not exceed ¾ the length of the wingspan or rotor.
2. Nozzles must always point backward and parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

SPRAY DRIFT ADVISORIES

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

The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making 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. 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 Inversion section of this label).

Controlling Droplet Size

Volume: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows 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 higher flow rate nozzles instead of increasing pressure.

Number of nozzles: Use the minimum number of nozzles that provide uniform coverage.

Nozzle Orientation: Orienting nozzles so that the spray is released backwards, parallel to the airstream will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
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. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
Boom Height: Making applications at the lowest height that produces a uniform spray pattern will reduce exposure of droplets to evaporation and wind.

{*Note to Reviewer: Boom Length, Application Height (by Air) and Swath Adjustment (aerial applications), will only be included with uses that allow aerial application; no box is required around this information*}
Boom Length: For some use patterns, reducing the effective boom length to less than ¾ of the wingspan or rotor length may further reduce drift without reducing swath width.
Application Height (by air): Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
Swath Adjustment (aerial applications)**:** When applications are made with a crosswind toward sensitive areas, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Swath Adjustment: For ground applications, when applications are made with a crosswind towards sensitive areas, the application should leave a buffer to avoid off-site movement.

Wind
Drift potential is lowest between wind speeds. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrains that could affect spray drift.

Temperature and Humidity
When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions
Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures 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 upwards and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas
The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g, when wind is blowing away from the sensitive areas).

Drift Control Additives
Drift control additives may be used with all spray equipment with the exception of controlled droplet applicators. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the label. It is recommended that additives be certified by the Chemical Producers and Distributors Association (CPDA).

Off-Target Movement of Sulfentrazone 4F Row Herbicide

Drift of dilute spray mixtures containing Sulfentrazone 4F Row herbicide must be prevented. Observation of the preceding environmental conditions, correct application equipment design, calibration and application practices will significantly diminish the risk of off-target spray drift. Sulfentrazone 4F Row herbicide can cause significant symptomology by drift on to sensitive plants. This symptomology may manifest initially as discreet, localized spots where contacted by Sulfentrazone 4F Row herbicide drift mixtures. Depending on concentration of the spray solution and droplets size (effectively determining the dosage of sulfentrazone) and also depending on the inherent sensitivity of the plants involved, these spots or lesions may or may not coalesce. These effects will usually not have lasting effects on plant growth but will likely reduce the value of affected fruit or foliage where grade or quality is associated with appearance. In severe drift instances with particularly sensitive plants, defoliation of affected foliage could result. Failure to follow these guidelines and environmental prohibitions that then result in off-target movement or drift of Sulfentrazone 4F Row herbicide on to unintended plants, irrespective of severity, constitutes misapplication of this product. FMC accepts no responsibility or liability for potential turf effects that may result from such misapplication of Sulfentrazone 4F Row herbicide.

WEED CONTROL IN TURFGRASS

Sulfentrazone 4F ROW is to be used on established turf areas including but not limited to residential and Institutional Lawns, Athletic Fields, Commercial Sod Farms, Golf Course Fairways and Roughs to control the weeds/sedges listed in the following tables:

- Table 2. Summer Annual Weeds Managed by preemergent application when treated prior to weed seed germination
- Table 3: Winter Annual Weeds Managed with Preemergent Application
- Table 4. Broadleaf Weeds Controlled or Suppressed with Postemergent Application
- Table 5. Sedges Controlled or Suppressed with Postemergent Application
- Table 6. Split Application Rate Options
- Table 7. Grassy Weeds Controlled or Suppressed with Postemergent Application

Turfgrass Safety

This product may be used on seeded, sodded or sprigged turfgrasses that are well established.
First application of this product can be made following the second mowing providing the turfgrass has developed into a uniform stand with a good root system.

Turfgrass injury could result from application of this product on turfgrass that is not well established or has been weakened by stresses such as unfavorable weather conditions, disease, chemical or mechanical influences.

[Turfgrass] Restrictions:

- Do not apply to golf course putting greens or tees.
- Do not use on turfgrasses other than those listed on this label.
- Do not apply with surfactants unless previous experience has demonstrated combinations with surfactant to be physically compatible and non-injurious to the grass type in question.
- Do not apply to areas where ornamental bulbs or dormant non-woody perennials are present. Sulfentrazone 4F ROW Herbicide is soil active and may damage these plants upon emergence.
- The maximum single application rate is 12 fl oz product/acre (0.275 fl oz product/1000 sq ft).
- The maximum annual application rate for sulfentrazone is 0.375 lb per acre per calendar year.

[Turfgrass] Other Use Precautions:

- Sulfentrazone 4F ROW has demonstrated tolerance on both cool and warm season turfgrasses. However, not all varieties have been evaluated. Turfgrass managers desiring to treat newly released varieties should first apply Sulfentrazone 4F ROW to a small area prior to treatment of larger areas.
- Temporary turfgrass discoloration has been observed when Primo has been either tank-mixed or applied within 7 days of a Sulfentrazone 4F ROW application. It is recommended that Primo applications be made 7 days prior to, or after Sulfentrazone 4F ROW application to reduce risk of turfgrass discoloration.

SPECIFIC INSTRUCTIONS FOR TURFGRASS

Use Rate Conversion		
Fl oz product/1000 sq ft	**lb sulfentrazone/A**	**Fl oz product/A**
0.046	0.062	2
0.092	0.125	4
0.138	0.188	6
0.18	0.250	8
0.275	0.375	12

When applied as directed under the conditions described, the following established turfgrasses are tolerant to Sulfentrazone 4F ROW at the listed use rates in a range from 0.125 to 0.375 lb a.i./acre (4 to 12 fl. oz/acre or 0.092 to 0.275 fl. oz./1000 sq ft.

Table 1. Application Rates for Tolerant grasses

Grass Type	Single Application Use Rates Refer to the "per species" maximum single application use rates. This product may be applied more than once per year as long as the maximum annual application rate is not exceeded.	
	Fl oz / 1000 sq ft	**Fl oz / acre**
Cool Season Grasses		
Bentgrass, creeping *(Agrostis sp.*)	0.092	4
Bluegrass, Kentucky *(Poa pratensis)* Bluegrass, Rough *(Poa trivialis)* [2] Fescue, fine *(Festuca rubra)* [1] Fescue, tall *(Festuca arundinacea)* [1] Ryegrass, perennial *(Lolium perenne)*	0.092 – 0.18	4 – 8
Warm Season Grasses		
Bahiagrass *(Paspalum notatum)* [2] Bermudagrass *(Cynodon dactylon)* & hybrids Buffalograss *(Buchloe dactyloides)* Carpetgrass *(Axonopus affinis)* Centipedegrass *(Eremochloa ophuiroides)* Kikuyugrass *(Pennisetum clandestinum)* Seashore Paspalum (Paspalum vaginatum) St.Augustinegrass *(Stenotaphrum secundatum)*[2] Zoysiagrass *(Zoysia japonica)* [2]	0.18 – 0.275	8 – 12

1 Use of this product on certain cultivars of Chewings Fescue Fine Fescue or Tall Fescue cultivars may result in undesirable injury.

2 Sulfentrazone 4F ROW application may cause temporary discoloration to exposed leaf surfaces on St. Augustinegrass and certain cultivars of zoysiagrass, bahiagrass, or rough bluegrass. Treated turfgrass will recover with new growth. Discolored leaf tissue will be removed with mowing. To reduce potential for discoloration, do not apply Sulfentrazone 4F ROW on turfgrass that is weakened by weather, mechanical, chemical, disease or other related stress. Maintain proper cultural practices such as adequate moisture and fertility levels to promote healthy turf growth.

Application to reseeded, overseeded or sprigged areas:
Reseeding, overseeding or sprigging of treated areas within one (1) month after application of this product could inhibit the establishment of desirable turfgrasses. Overseeding of bermudagrass with perennial ryegrass at two (2) to four (4) weeks after an application can be done if slight injury to perennial ryegrass can be tolerated.

Best results are obtained for reseeding or overseeding when mechanical or power seeding equipment (Slit seeders) are used to give good seed to soil contact and proper soil cultivation, irrigation and fertilization practices are followed.

Sod Production:
This product may be applied to established sod. Allow sod to establish a good root system, a uniform stand and to fill in the exposed edges. It is recommended that sod be established for at least three (3) months before an application of Sulfentrazone 4F ROW**. Do not apply this product within three (3) months of harvest.**

PREEMERGENCE CONTROL OF ANNUAL GRASSES AND BROADLEAF WEEDS
Sulfentrazone 4F ROW will control or suppress the weeds listed in the following Tables when applied at the following times.

- **Control of Summer Annual Weeds:** Apply prior to weed germination in early spring. Do not exceed the application rate specified for the turf species as specified in Table 1.

Table 2. Summer Annual Weeds Managed by preemergent application when treated prior to weed seed germination

Common Name	Scientific Name
Barnyardgrass	*Echninochloa crusgalli*
Black medic	*Medicago lupulina*
Common purslane	*Portulaca oleracea*
Crabgrass, large	*Digitraria sanguinalis*
Crabgrass, smooth	*Digitaria ischaemum*
Foxtail, green	*Setaria viridis*
Foxtail, yellow	*Setaria glauca*
Goosegrass	*Eleusine indica*
Pigweed, Redroot	*Amaranthus retroflexus*
Pigweed, Smooth	*Amaranthus hybridus*
Prostrate knotweed	*Polygonum aviculare*
Spurge Prostrate spurge Spotted spurge	*Euphorbia spp.* *Euphorbia supina* *Euphorbia maculata*

- **Control of Winter Annual Weeds:** Apply in late summer or early fall, to control or suppress the winter annual weeds listed in Table 3. Do not exceed the maximum application rates specified for the turf species as specified in Table 1.

Table 3: Winter Annual Weeds Managed with Preemergent Application

Common Name	Scientific Name
Annual bluegrass	*Poa annua*
Annual ryegrass	*Lolium multiflorum*
Buttercups	*Ranunculus spp.*
Carolina geranium	*Geranium carolinianum*
Common chickweed	*Stellaria media*
Common groundsel	*Senecio vulgaris*
Corn Speedwell	*Veronica arvensis*
Hairy bittercress	*Cardamine hirsuta*
Henbit	*Lamium amplexicaule*
Johnnyjumpup violet	*Viola rafeinesquii*
Knawel	*Scleranthus annuus*
Large hop clover	*Trifolium campestre*
Mouseear chickweed	*Cerastium vulgatum*
Parsley-piert	*Alchemilla microcarpa*
Spurweed	*Soliva pterosperma*

To broaden the spectrum for preemergence control or suppression of annual grasses and/or broadleaf weeds listed in Table 3, Sulfentrazone 4F ROW can be tank mixed with an EPA registered annual grass herbicide. Applications in combination with prodiamine, pendimethalin, dithiopyr or oxadiazon will provide broad spectrum control of the weeds listed in Table 4. Read the label recommendations of the tank mix partner to determine grass species safety, use rate and application procedures. Follow all label restrictions, use directions and precautionary statements before using these tank mixtures. Read and follow the “TANK MIXTURES COMPATIBILITY” section of this label for instructions on how to determine the compatibility of tank mixtures.

POSTEMERGENCE CONTROL OF ANNUAL, BIENNIAL & PERENNIAL BROADLEAF WEEDS

Sulfentrazone 4F ROW will control or suppress the weeds listed in Table 4 when applied alone shortly after weeds have emerged. Do not exceed the application rate specified for the turfgrass species as specified in Table 1.

To broaden the weed spectrum and increase effectiveness for certain weeds listed in Table 4, Sulfentrazone 4F ROW may be tank mixed with other EPA registered postemergence herbicides. Control of emerged annual grass weeds may be improved by combining Sulfentrazone 4F ROW with Acclaim®, Dimension®, MSMA or Drive®. Read the label recommendations of the tank mix partner to determine turfgrass species safety, use rate and application procedures. Follow all label restrictions, use directions and precautionary statements before using these tank mixtures. Read and follow the "TANK MIXTURES COMPATIBILITY" section of this label for instructions on how to determine the compatibility of tank mixtures.

Table 4. Broadleaf Weeds Controlled or Suppressed with Postemergent Application

Common Name	Scientific Name
Bedstraw, catchweed	*Galium aparine*
Beggarweed, Florida	*Desmodium tortuosum*
Bittercress	*Cardamine spp.*
Black medic	*Medicago lupulina*
Buttercups	*Ranunculus spp.*
Carolina geranium	*Geranium carolinianum*
Carpetweed	*Mollugo verticillata*
Chickweed, common	*Stellaria media*
Chickweed, mouseear	*Cerastium vulgatum*
Cinquefoil	*Potentilla spp.*
Clover	*Trifolium spp.*
Copperleaf	*Ascalypha spp.*
Cudweed	*Gnaphalium spp.*
Dandelion	*Taraxacum officinale*
Dock, Curly	*Rumex crispus*
Dollarweed	*Hydrocotyl umbellata*
Eclipta	*Eclipta prostrata*
Evening primrose	*Oenothera biennis*
Fiddleneck	*Amsinckia spp.*
Filaree	*Erodium spp.*
Galinsoga	*Galinsoga ciliate*
Goldenrod	*Solidago spp.*
Ground ivy	*Glechoma hederacea*
Groundsel, common	*Senecio vulgaris*
Henbit	*Lamium amplexicaule*
Knawel	*Scleranthus annuus*
Knotweed, prostrate	*Polygonum aviculare*
Kochia	*Kochia scoparia*
Lambsquarters, common	*Chenopodium album*
Lawn burweed (spurweed)	*Soliva pterosperma*
Lespedeza, common	*Lespedeza striata*
Mallow, common	*Malva neglecta*
Parsley piert	*Alchemilla arvensis*
Pigweed, Redroot	*Amaranthus retroflexus*
Pigweed, Smooth	*Amaranthus hybridus*
Pigweed, Tumble	*Amaranthus albus*
Pineapple weed	*Matricaria matricarioides*
Plantain, buckhorn	*Plantago lanceolata*
Puncture weed	*Tribulus terrestris*

Common Name	Scientific Name
Purslane, common	*Portulaca oleracea*
Pusley, Florida	*Richardia scabra*
Redweed	*Melochia corchorifolia*
Rocket, London	*Sisymbrium irio*
Shepherd's purse	*Capsella bursa-pastoris*
Smartweed, Pennsylvania	*Polygonum pensylvanicum*
Sorrel, Red	*Rumex acetosella*
Speedwell	*Veronica spp.*
Spurge, (annuals)	*Euphorbia spp.*
Spurge, prostrate	*Euphorbia humistrata*
Spurge, spotted	*Euphorbia maculata*
Star of Bethlehem	*Ornithogalum umbellatum*
Velvetleaf	*Abutilon theophrasti*
Violet, wild	*Viola pratincola*
Violet, Johnny-jump-up	*Viola rafeinesquii*
Wild garlic	*Allium vineale*
Wild onion	*Allium canadense*
Woodsorrel, creeping	*Oxalis corniculata*
Woodsorrel, yellow	*Oxalis stricta*

POSTEMERGENCE CONTROL OF ANNUAL AND PERENNIAL SEDGES

Sulfentrazone 4F ROW will control or suppress sedges listed in Table 5. Apply at the highest rate allowed for the turfgrass species as specified in Table 1.

- Rates lower than 12 fl oz/acre (0.275 fl. oz/1,000 sq ft) will generally control sedges for at least 60 days.
- A rate of 12 fl oz/acre (0.275 fl oz/1,000 sq ft) will provide approximately 75% control for at least 60 days.
- **Yellow nutsedge (*Cyperus esculentus*) is the most susceptible sedge species.**

Good spray coverage is needed for optimum control of sedges.

Temporary discoloration of some turfgrass species may result from use of surfactant. Use of surfactants is not recommended.

Table 5. Sedges Controlled or Suppressed with Postemergent Application

Common Name	Scientific Name
Kyllinga, green	(*Kyllinga brevifolia*)
Kyllinga, false green	(*Kyllinga gracillima*)
Nutsedge, purple[1]	(*Cyperus rotundus*)
Nutsedge, yellow	(*Cyperus esculentus*)
Sedge, globe	(*Cyperus globulosus*)
Sedge, cylindric	(*Cyperus retrorsus*)
Sedge, Surinam	(*Cyperus surinamensis*)
Sedge, Texas	(*Cyperus polystachyos*)
1 PURPLE NUTSEDGE; For optimum control of purple nutsedge, split applications are recommended (Table 6). Apply 4-8 fl oz/acre as an initial application followed by a second application when evidence of actively growing purple nutsedge is visible. Do not exceed the applicable rate specified for the turfgrass species as specified in Table 1.	

Table 6. Split Application Rate Options

Grass Type	Option 1 (fl oz/acre)	Option 2 (fl oz/acre)
Cool Season Grasses excluding Bentgrass (see Table 1)	4 oz followed by 4 oz 35 DAIT	6 oz followed by 2 oz 35 DAIT

Grass Type	Option 1 (fl oz/acre)	Option 2 (fl oz/acre)
Warm Season Grasses (see Table 1)	8 oz followed by 4 oz 35 DAIT	6 oz followed by 6 oz 35 DAIT
DAIT = Days After Initial Treatment		

POSTEMERGENCE CONTROL OF GRASSY WEEDS

Sulfentrazone 4F ROW will control or suppress specific annual grasses in Table 7. Apply the highest rate allowed for the turfgrass species as specified in Table 1.

- Rates lower than 12 fl oz/acre (0.275 fl. oz/1,000 sq. ft.) will generally control grasses for at least 60 days.
- Sulfentrazone 4F ROW works best if applied when the annual grasses are small (pre tiller stage) and actively growing.

Good spray coverage is needed for optimum control of grasses.

Temporary discoloration of some turfgrass species may result from use of surfactant. Use of surfactants is not recommended.

Table 7. Grassy Weeds Controlled or Suppressed with Postemergent Application

Common Name	Scientific Name
Goosegrass	*Eleusine indica*

SELECTIVE WEED CONTROL IN CONTAINER/FIELD GROWN ORNAMENTALS

Sulfentrazone 4F ROW can be used in Container and Field Grown Ornamentals on the weeds listed in the following tables:

- Table 2. Summer Annual Weeds Managed by preemergent application when treated prior to weed seed germination
- Table 3. Winter Annual Weeds Managed with Preemergent Application
- Table 4. Broadleaf Weeds Controlled or Suppressed with Postemergent Application
- Table 5. Sedges Controlled or Suppressed with Postemergent Application

[Ornamental] Use Restrictions

- Do not apply directly to landscape ornamental foliage or ornamental beds containing dormant bulbs or non-woody perennials. Sulfentrazone 4F ROW Herbicide is soil active and may damage these plants upon emergence.
- Do not use on food producing trees, vines, or plants.
- The maximum single application rate is 12 fl oz product/acre (0.275 fl oz product/1000 sq ft).
- The maximum annual application rate for sulfentrazone is 0.375 lb per acre per calendar year.

[Ornamentals] Use Precautions

- To reduce plant injury, apply Sulfentrazone 4F ROW Herbicide as a site directed spray to the soil around the base of the plant. Avoid application directly to plant foliage where possible; however if foliage contacted during application, apply overhead irrigation to the foliage to wash Sulfentrazone 4F ROW Herbicide from plant surfaces onto soil.
- The addition of liquid fertilizers can increase the probability of superficial damage to green plant tissue inadvertently treated if applied with Sulfentrazone 4F ROW Herbicide.

SPECIFIC INSTRUCTIONS FOR CONTAINER/FIELD GROWN ORNAMENTALS

Use Rate Conversion		
Fl oz product/1000 sq ft	**lb sulfentrazone/A**	**Fl oz product /A**
0.092	0.125	4
0138	0.188	6
0.18	0.250	8
0.275	0.375	12

- Direct spray toward the base of the plant. Do not spray over-the-top. Direct application of Sulfentrazone 4F ROW Herbicide to actively growing foliage can cause unacceptable injury to desirable plants.
- Most effective when applied to soil free of clods and debris such as leaves or mulch.
- When applied pre-emergence, the treated area should receive at least 0.25 inches of irrigation or rainfall after application for the greatest efficacy.

When applied as directed under the conditions described, the species listed below in Table 8 are tolerant to Sulfentrazone 4F ROW Herbicide. When plants are under stress (such as heat, drought, or frost damage), some cultivars of listed plants may be sensitive to Sulfentrazone 4F ROW Herbicide.

Table 8. Tolerant Ornamental Species

Common name	Scientific name
Abelia	*Abelia X grandiflora*
Arborvitae	*Thuja sp.*
Azalea and Rhododendron	*Rhododendron sp.*
Boxwood Species	*Buxus sp.*
Bridal - Wreath	*Spirea sp.*
Butterfly Bush	*Buddleia davidii*
Crape Myrtle	*Lagerstroemia indica*

Creeping Juniper	*Juniperus horizontalis*
Douglas Fir	*Pseudotsuga menziesii*
Dwarf Yaupon Holly	*Ilex vomitora 'Nana'*
Fir Species (Fraser, Balsam, etc)	*Abies fraseri*
Juniper	*Juniperus sp.*
Meserve Holly	*Ilex x meserveae*
Norway Spruce	*Abies picea*
Rose	*Rosa sp.*
Rotunda Holly	*Ilex Rotunda*
Southern Magnolia	*Magnolia grandiflora*
Yew	*Taxus sp.*

Table 9. Application Sites and Instructions

Site	Application Instructions
Newly-Transplanted Container or Field Nursery Stock	1. Apply after new transplant material has formed roots and is well established 2. Do not apply until soil has settled around transplants. Direct application toward base of plant to avoid terminal and bud area of plant.
Established Container, Field Nursery Stock Plants, or Landscape Plants	Apply at any time as a directed spray toward the base of the plant.

Table 10. Application Rate for Container and Field Grown Ornamentals

Amount to Apply (Broadcast)*	Comments
4 -12 fl oz/A 0.092 – 0.275 fl oz/1000 sq ft	1. Use 8-12 fl oz/A for sedges and perennial weeds. 2. Multiple applications may be made if needed as long as total amount applied in one year does not exceed 12 fl oz/A **3.** Direct application toward base of plants

PREEMERGENCE CONTROL OF ANNUAL BROADLEAF WEEDS AND SEDGES
Sulfentrazone 4F ROW Herbicide will control or suppress the weeds listed in Table 2 and 3 when applied prior to weed germination. Apply Sulfentrazone 4F ROW Herbicide at a rates consistent with Table 10.

To broaden the weed spectrum and increase effectiveness for certain weeds listed in Table 4, Sulfentrazone 4F ROW Herbicide may be tank mixed with other EPA registered pre-emergence herbicides. Refer to the Tank Mixtures Compatibility section of this label to determine compatibility of tank mixtures. Consult the label for application instructions for each of the tank mix products. Follow all label restrictions, use directions and precautionary statements before using these tank mixtures. Control of emerged annual grass weeds may be improved by combining Sulfentrazone 4F ROW Herbicide with other post emergence herbicides.

POSTEMERGENCE CONTROL OF ANNUAL, BIENNIAL & PERENNIAL BROADLEAF WEEDS
Sulfentrazone 4F ROW Herbicide will control or suppress the weeds listed in Table 4 when applied alone shortly after weeds have emerged. Apply Sulfentrazone 4F ROW Herbicide at a rates consistent with Table 10.

To broaden the weed spectrum and increase effectiveness for certain weeds listed in Table 4, Sulfentrazone 4F ROW Herbicide may be tank mixed with other EPA registered postemergence herbicides. Refer to the Tank Mixtures Compatibility section of this label to determine compatibility of tank mixtures. Consult the label for application instructions for each of the tank mix products. Follow all label restrictions, use directions and precautionary statements before using these tank mixtures. Control of emerged annual

grass weeds may be improved by combining Sulfentrazone 4F ROW Herbicide with other registered post emergence herbicides.

POSTEMERGENCE CONTROL OF SEDGES

Sulfentrazone 4F ROW Herbicide will control or suppress sedges **listed in Table 5** (Table 5)**.** Apply Sulfentrazone 4F ROW Herbicide at a rates consistent with Table 10.

- Rates lower than 12 fl oz/acre (0.275 fl. oz/1,000 sq. ft.) have been shown to control sedges for up to 60 days.
- For longer residual control or heavier sedge populations, a second application 30 days following the first may be needed for optimum control.

Good spray coverage is needed for optimum control of sedges.

INTEGRATED [INDUSTRIAL] VEGETATIVE MANAGEMENT (IVM) USE INSTRUCTIONS

Sulfentrazone 4F ROW provides residual control of the germinating weeds listed in the following Tables:

- Table 12. Weeds Controlled by Sulfentrazone 4F ROW Herbicide

Railroad Rights-of-Way

Sulfentrazone 4F ROW can be used to control many weeds and maintain bare ground on railroad rights-of-way, including railroad yards, railroad crossings and railroad bridge abutments.

Highway, Roadside, Pipeline and Utility Rights-of-Way.

Sulfentrazone 4F ROW can be used to control many weeds and maintain bare ground in highway, roadside, pipeline and utility rights-of-way. Such areas would include, but are not limited to, guard rails, road shoulders, electric utility substations, pipeline pumping stations, around electric transmission towers, around distribution line poles and in other areas where complete vegetation control is desired.

Industrial Areas, Fence Rows and Other Non-crop Sites

Sulfentrazone 4F ROW controls weeds and maintains bare ground in industrial areas including production facilities, tank farms, storage areas, parking areas, lumber yards, airports, military installations, along fence rows, and in similar non-crop sites where complete vegetation control is needed.

[IVM] Restrictions

- Applications may be made by helicopter on railroad rights-of-way only.
- Do not graze or feed livestock forage cut from areas treated with Sulfentrazone 4F ROW.
- The maximum single application rate is 12 fl oz product/acre (0.275 fl oz product/1000 sq ft).
- The maximum annual application rate for sulfentrazone is 0.375 lb per acre per calendar year.
- When applied by ground, application must use a minimum of 10 gallons of spray solution per acre.
- **When this product is tank mixed with a contact burndown herbicide, applicators must use a minimum spray volume of 15 gallons per acre.**

[IVM] Use Precautions

- Sulfentrazone 4F ROW has demonstrated tolerance on both cool and warm season turfgrasses. However, not all varieties have been evaluated. Turfgrass managers desiring to treat newly released varieties should first apply Sulfentrazone 4F ROW to a small area prior to treatment of larger areas.

SPECIFIC INSTRICTIONS FOR INTEGRATED [INDUSTRIAL] VEGETATIVE MANAGEMENT (IVM)

Use Rate Conversion		
Fl oz product/1000 sq ft	**lb sulfentrazone/A**	**Fl oz product /A**
0.18	0.250	8
0.275	0.375	12

- **Use the higher rates on sites with fine soil textures and on sites with more than 2% organic matter.**
- For best results, apply Sulfentrazone 4F ROW Herbicide alone or in combination with other herbicides for residual control of weeds in late summer, fall, or early spring to insure adequate moisture for soil activation.
- The most effective preemergence weed control will be obtained when Sulfentrazone 4F ROW herbicide is activated by at least 0.5 inches of rainfall or irrigation within 7 days after application and prior to weed seed germination.
- Use labeled rates of burndown herbicides such as glyphosate, glyphosate - trimesium, diquat, 2,4-D, dicamba, etc. as tank mixtures with Sulfentrazone 4F ROW. Use recommended adjuvants for the herbicide tank mix partner. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must read and observe the product

label of all tank mix partners. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

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When applied as directed under the conditions described, the following established turfgrasses are tolerant to Sulfentrazone 4F ROW at the listed use rates in a range from 0.250 to 0.375 lb a.i./acre (8 to 12 fl. oz/acre or 0.18 to 0.275 fl. oz./1,000 sq. ft).
{Note to reviewer: Table 1 and 11 are identical. When both turfgrass and IVM appear on the commercial label, this table only needs to appear once since both sections reference the same table.}

Table 11. Application Rates for Tolerant grasses

Grass Type	**Single Application Use Rates** Refer to the "per species" maximum single application use rates. This product may be applied more than once per year as long as the maximum annual application rate is not exceeded.	
	fl oz / 1000 sq ft *{Note to Reviewer: When the label only includes IVM uses, this column is optional}*	**fl oz / acre**
Cool Season Grasses		
Bluegrass, Kentucky *(Poa pratensis)* Bluegrass, Rough[2] *(Poa trivialis)* Fescue, fine[1] *(Festuca rubra)* Fescue, tall[1] *(Festuca arundinacea)* Ryegrass, perennial *(Lolium perenne)*	0.18	8
Warm Season Grasses		
Bahiagrass[2] *(Paspalum notatum)* Bermudagrass *(Cynodon dactylon)* & hybrids Buffalograss *(Buchloe dactyloides)* Carpetgrass *(Axonopus affinis)* Centipedegrass *(Eremochloa ophuiroides)* Kikuyugrass *(Pennisetum clandestinum)* Seashore Paspalum (Paspalum vaginatum) St.Augustinegrass *(Stenotaphrum secundatum)*[2] Zoysiagrass *(Zoysia japonica)* [2]	0.18 – 0.275	8 - 12

1 Use of this product on certain cultivars of Chewings Fescue Fine Fescue or Tall Fescue cultivars may result in undesirable injury.

2 Sulfentrazone 4F ROW application may cause temporary discoloration to exposed leaf surfaces on St. Augustinegrass and certain cultivars of zoysiagrass, bahiagrass, or rough bluegrass. Treated turfgrass will recover with new growth. Discolored leaf tissue will be removed with mowing. To reduce potential for discoloration, do not apply Sulfentrazone 4F ROW on turfgrass that is weakened by weather, mechanical, chemical, disease or other related stress. Maintain proper cultural practices such as adequate moisture and fertility levels to promote healthy turf growth.

RESIDUAL CONTROL OF GERMINATING WEEDS IN NON-CROP LAND
Sulfentrazone 4F ROW provides residual control of the germination weeds listed in Table 12 in non-crop land at application rates between 0.299 to 0.451 lb total ai/acre (9.6 to 14.4 fl oz/acre or 0.220 to 0.331 fl oz/1000 sq ft).
For areas with turfgrass, do not exceed the application rate for the turf species listed in Table 11.

Use the higher labeled rates to extend length of control.

Table 12. Weeds Controlled by Sulfentrazone 4F ROW Herbicide

Common Name	Scientific Name
Beggarweed, Florida	*Desmodium tortuosum*
Carpetweed	*Mollugo verticillata*
Chickweed, common	*Stellaria media*
Copperleaf, Hophornbeam	*Acalypha ostryifolia*
Crabgrass species	*Digitaria spp.*
Croton, tropic	*Croton glandulosus*
Daisy, American	*Coreopsis grandiflora*
Dayflower, common	*Commelina communis*
Dayflower, Virginia	*Commelina virginica*
Dock, curly	*Rumex crispus*
Fixweed	*Descurainia Sophia*
Galinsoga, hairy	*Galinsoga ciliata*
Groundcherry, clammy (seedling)	*Physallis heterophylla*
Groundcherry, cutleaf	*Physalis angulata*
Jimsonweed	*Datura stramonium*
Kochia	*Kochia scoparia*
ALS/Triazene Resistant Kochia	*Kochia scoparia*
Lambsquarter, common	*Chenopodium album*
Lettuce, wild	*Lactuca virosa*
Mallow, common	*Malva neglecta*
Milkweed, honeyvine	*Ampelamus albidus*
Mexicanweed	*Caperonia castanifolia*
Morningglory species	*Ipomoea spp.*
Mustard species	*Brassica spp.*
Nightshade species	*Solanum spp.*
Nutsedge species	*Cyperus spp*
Palmer amaranth	*Amaranthus palmeri*
Pigweed, smooth	*Amaranthus hybridus*
Pigweed, redroot	*Amaranthus retroflexus*
Texasweed	*Caperonia palustrus*
Thistle, Russian	*Salsola iberica*
Waterhemp, tall	*Amaranthus tuberculatus*
Waterhemp, common	*Amaranthus rudis*

STORAGE AND DISPOSAL
Do not contaminate water, food of feed by storage or disposal.

Pesticide Storage
Store product in original container only, away from other pesticides, fertilizer, food or feed.
Store in a cool, dry place and avoid excess heat.
In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.
Call **CHEMTREC (transportation and spills): (800) 424-9300.**
To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal
If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional office for guidance.

Container Handling
Metal or Plastic Containers - Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: **(For containers greater than 5 gallons)** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **(For containers 5 gallons or less)** 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 1/4 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 reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Do not cut or weld metal containers.
Returnable/Refillable Containers - Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Conditions of Sale and Limitation of Warranty and Liability:

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.

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. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control or FMC or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.
Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under

abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) seller or FMC, and buyer assumes the risk of any such use.
To the extent consistent with applicable law, FMC or seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF FMC 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 FMC OR SELLER, THE REPLACEMENT OF THE PRODUCT.
This Conditions of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement.

Acclaim® – Trademark of Bayer
Dimension® - Trademark of Dow AgroSciences
Drive® - Trademark of BASF

Optional Marketing Claims:

- Visible results in 24 hours
- Reduce Future Sedge Populations
- Kills Sedge [and Kyllinga] [Fast][Quick]
- Speedy Kill of Sedge [and Kyllinga]
- [Control[s]][Dismiss] your Sedge [and Kyllinga] population
- Easy to use measuring [system][device][doser][dosing system]
- Control over [50][60] tough weeds
- [Sedge][Kyllinga] Icon or Image
- Kills the root and the shoot
- Attack sedge from [all sides][above and below the surface]
- Formulated for superior Sedge [and Kyllinga] control