

# SPECIMEN LABEL

Group

14

Herbicide

# SULFENTRAZONE 4SC SELECT™

## HERBICIDE

ACTIVE INGREDIENT:	WT. BY %
Sulfentrazone .....	39.6%
<b>OTHER INGREDIENTS:</b> .....	<u>60.4%</u>
<b>TOTAL:</b> .....	<b>100.0%</b>

Contains 4 lbs. of active ingredient per gallon.

**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.)

**See label booklet for complete First Aid, Precautionary Statements, Directions For Use, and Storage and Disposal.**

Manufactured For:  
Prime Source,  
a division of  
Albaugh, LLC  
1525 NE 36th Street  
Ankeny, IA 50021



EPA Reg. No. 89442-36

AD070720

## FIRST AID

<b>IF SWALLOWED</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>

## HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information concerning this product, call your poison control center at **1-800-222-1222**.

## NOTE TO PHYSICIAN

Sulfentrazone is expected to have low oral and dermal toxicity, and moderate inhalation toxicity. It is expected to be slightly irritating to the skin and minimally irritating to the eyes. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

# PRECAUTIONARY STATEMENTS

## HAZARDS TO HUMANS AND DOMESTIC ANIMALS

### CAUTION

Harmful if swallowed, inhaled, or absorbed through skin. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. 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
- Chemical-resistant gloves made of any waterproof material
- 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 exist, 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 marine/estuarine invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to terrestrial and aquatic plants in neighboring areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

**Groundwater Advisory:** This chemical 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.

### **PHYSICAL/CHEMICAL HAZARDS**

Do not use or store near heat or open flame. Do not mix or allow coming in contact with oxidizing agent. Hazardous chemical reaction may occur.

## **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.

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 from when **Sulfentrazone 4SC Select™** is first applied.

### **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, such as plants, soil, or water, is:

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- 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.

**Reentry Statement:** Do not allow people (other than applicator) or pets on treatment area during application. Do not enter treatment area until sprays have dried.

### **WEED RESISTANCE MANAGEMENT**

**Sulfentrazone 4SC Select™** must be applied at the labeled rates and in accordance with label directions. Do not apply **Sulfentrazone 4SC Select™** at rates less than those listed in this label. Observe target areas prior to treatment and apply **Sulfentrazone 4SC Select™** when weeds are smaller.

Scouting the application area before applying **Sulfentrazone 4SC Select™** to identify weeds and their growth stages and again following application of **Sulfentrazone 4SC Select™** will help to identify performance issues or likely weed resistance.

If levels of control provided by applications of this product is reduced, and cannot be accounted for by factors such as misapplication, abnormal levels of target species or

extremes of weather, it may be the case that target species have developed a strain resistant to applications of **Sulfentrazone 4SC Select™**. If resistance develops, **Sulfentrazone 4SC Select™** may not provide sufficient control of target species. Where you suspect target species are developing resistance, contact State/local agricultural advisors.

Certain species may develop resistance to this product/other herbicides where they are used repeatedly. Application of pesticide products therefore should be carried out in consultation with local/State agricultural advisors so that local resistance management strategies can be implemented.

In order to limit the possibility of resistance developing, apply **Sulfentrazone 4SC Select™** in rotation with herbicides that have a different mode of action and other classes of chemistry.

### **PRODUCT INFORMATION**

**Sulfentrazone 4SC Select™** is a soil-applied selective herbicide. It will control listed grasses, sedges and broadleaf weeds. **Sulfentrazone 4SC Select™** is a flowable product that contains 4 pounds of active ingredient (sulfentrazone) per gallon.

The active ingredient sulfentrazone inhibits an enzyme required by plants in order to produce chlorophyll. Inhibiting this enzyme leads to the release of singlet oxygen (O) which then disrupts cellular membranes, resulting in cellular leakage and cellular death ultimately resulting in plant death.

**Sulfentrazone 4SC Select™** has a selective mode of action because sulfentrazone has a greater affinity for the PPO IX enzyme in listed weed species as opposed to listed crops.

**Sulfentrazone 4SC Select™** must be prepared and used in such a way so as to prevent the following:

- Spills
- Improper disposal of spray mixtures, rinsate, or any excess pesticide
- Back siphoning in wells

### **Setback**

The following activities must not be carried out within 50 feet of any well (including drainage and abandoned wells) unless the activity is carried out on an impervious pad that has been built to withstand the heaviest possible weight that will be moved across the pad or placed upon it:

- Loading
- Mixing
- Washing/rinsing **Sulfentrazone 4SC Select™** from application equipment

The impervious pad must be made to contain any leaks or spills, as well as any rinsate/washwaters and rain that may fall upon it. An impervious pad that does not have a roof must have enough capacity to contain a minimum of 110% of the volume of the largest container that will be placed on the pad. Those pads that are covered by a roof must have enough capacity to contain a minimum of 100% of the volume of the largest container that will be placed on the pad. The roof must be big enough to completely exclude contact with the pad from rainfall.

The above containment volume minimum must be maintained. The minimum capacity volumes do not apply to the following:

- Vehicles delivering pesticide product to the load/mix area

Applicators must ensure that they are aware of any State requirements for containment and set back from wells.

The impervious pad must be self-contained so that surface water cannot flow over or from one pad. They must also be sloped to allow for material removal.

Do not load or mix **Sulfentrazone 4SC Select™** within 50 feet of any sinkholes, reservoirs, impounded or natural lakes, wells (including drainage and abandoned wells) or intermittent/perennial rivers and streams. This restriction does not apply where there are properly diked loading/mixing areas or impervious pads. The restriction also does not apply where abandoned wells are properly plugged or capped.

### **APPLICATION INSTRUCTIONS**

Apply **Sulfentrazone 4SC Select™** as a broadcast treatment at rates indicated, in enough water to obtain good coverage and to make at least 10 gallons finished spray per acre.

When **Sulfentrazone 4SC Select™** is tank mixed or applied alone, use water as the carrier.

In order to assure appropriate amounts of moisture for activation of product, best results will be obtained if **Sulfentrazone 4SC Select™** is applied in early Spring, late Summer, or Fall.

Make application with a boom and nozzle sprayer or boom-less application system. Make application at spray pressure of 25 psi or below, unless the manufacturer specifies otherwise. Achieve best possible spray delivery and coverage, with minimum amounts of fine spray droplets by utilizing properly chosen and adjusted nozzles, spray tips, and screens.

Applications only to railroad rights of way can be made by helicopter.

Do not allow spray to drift onto adjacent plants as injury to other plants may occur .

When **Sulfentrazone 4SC Select™** has been activated, it will provide control of listed weed species. The level of control will depend on the size and type of weed species when **Sulfentrazone 4SC Select™** is activated. The control of listed germinating weed species will be reduced when rain or irrigation follows a period of dry weather.

Where there is a prolonged period when rainfall/irrigation is not available, alternative weed control methods should be considered.

Once a treatment with **Sulfentrazone 4SC Select™** has been made, seedlings and germinating seeds absorb sulfentrazone from the soil solution. The amount of available active ingredient contained in the soil solution, is determined by the following factors:

- Soil type
- Soil pH
- Soil organic matter content

### **Application by Air**

Apply **Sulfentrazone 4SC Select™** using appropriate nozzles that will allow for optimal coverage, will minimize drift and will keep fine spray droplets to a minimum.

### **RESTRICTIONS**

- Do not apply **Sulfentrazone 4SC Select™** when wind speed is likely to cause drift outside the target area.
- For aerial applications, the maximum release height must be 10 feet from the top of the crop 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.
- Aerial application is allowed only when environmental conditions prohibit ground application. Aerial application will be allowed only when the field is too wet to safely apply pesticide using ground equipment.

### **Application by Ground**

Apply **Sulfentrazone 4SC Select™** using a boom and nozzle sprayer with the appropriate spray tips, screens and nozzles. Application equipment must be calibrated for optimal coverage and spray distribution at the appropriate pressure. Use spray nozzles that will minimize drift by keeping fine spray droplets to a minimum. Avoid overlapping applications which may result in excessive treatment and adverse crop response. When starting, turning or stopping, slower ground speed of application equipment may also lead to excessive treatment.



## RESTRICTIONS

- Ground applicators must use a 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.
- For boom spraying, the maximum release height must be 30 inches from the soil for ground application.
- Do not apply **Sulfentrazone 4SC Select™** when wind speed is likely to cause drift outside the target area.

**California Only Specific Restrictions on Applications of Sulfentrazone 4SC Select™ Runoff Ground Water Protection Areas.** Do not use in areas identified by the California Department of Pesticide Regulation as runoff ground water protection areas\* unless one of the following management practices can be met:

- Incorporation of the pesticide. Within 48 hours after the day this product is applied, the pesticide shall be incorporated on at least 90 percent of the area treated; using a disc, harrow, rotary tiller, or other mechanical method, or by sprinkler or low flow irrigation, including chemigation where allowed by the label, using a minimum of ¼ inch of irrigation water and a maximum of one inch as described under Application Instructions, at application rates that do not cause surface water runoff from the treated property or to wells on the treated property; or
- Retention of runoff on field. For 6 months following the application, the field shall be designed, by berms, levees, or non-draining circulation systems, to retain all irrigation runoff and all precipitation on, and drainage through, the field. The retention area on the field shall not have a percolation rate of more than 0.2 inches per hour (5 inches per 24 hours); or
- Retention of runoff in a holding area off the field. For 6 months following application, all runoff shall be channeled to a holding area off the application site, under the control of the property owner, that is designed to retain all irrigation runoff and all precipitation on, and drainage through, the treated field and all other areas draining onto that holding area. The holding area shall not have a percolation rate of more than 0.2 inches per hour (5 inches per 24 hours); or
- Runoff onto a fallow field. For 6 months following application, runoff shall be managed so that it runs off onto an adjacent unenclosed fallow field at least 300 feet long that is not irrigated for 6 months after application with the exception of the addition of adequate moisture that is required for herbicidal activation following application as described under Application Instructions, with full consideration of any plant back restrictions.

**Artificial Recharge Basins.** Do not use below the high water line inside artificial recharge basins (a surface facility, such as an infiltration pond or basin, or spreading ground that is specifically designed and managed to increase the infiltration of introduced surface water supplies into a ground water basin), unless this product is applied 6 months or more before the basin is used to recharge ground water.

**Unlined Canals and Ditches.** Do not use below the high water line inside unlined canals and ditches unless either (a) the pesticide user can document that the percolation rate of the canal or ditch is equal to or less than 0.2 inches per hour (0.002 gallons per minute per square foot), or (b) the pesticide is applied 6 months before water is run in the canal or ditch.

**Rights-of-Way.** Do not use on engineered rights-of-way in areas established by the California Department of Pesticide Regulation as leaching or runoff ground water protection areas\* unless either (a) any runoff from the treated right-of-way shall pass through a non-crop fully vegetated area adjacent, and equal in area, to the treated area, or spread out onto an adjacent unenclosed fallow field that is at least 300 feet long and that will not be irrigated for 6 months following application with the exception of the addition of adequate moisture that is required for herbicidal activation following application as described under Application Instructions, with full consideration of any plantback restrictions, or (b) the property operator complies with any permit issued pursuant to the storm water provisions of the federal Clean Water Act pertaining to the treated area.

**Leaching Ground Water Protection Areas.** Do not use in areas designated by the California Department of Pesticide Regulation as leaching ground water protection areas\* unless either (a) the user does not apply any irrigation water for 6 months following the application of this product, or (b) the user applies this product to the planting bed or the berm above the level of irrigation water in the furrow or basin and the water level shall remain at or below that level for 6 months following application of the pesticide with the exception of the addition of adequate moisture that is required for herbicidal activation following application as described under Application Instructions, or (c) irrigation is managed so that the ratio of the amount of irrigation water applied divided by the net irrigation requirement is 1.25 or less for 6 months following application of this product.

\*Consult with your County Agricultural Commissioner to determine whether the application will be within an area designated by the California Department of Pesticide Regulation as either a Runoff Ground Water Protection Area or a Leaching Ground Water Protection Area. Details regarding the locations of these Areas are also available via the internet at [www.cdpr.ca.gov/docs/emon/grndwtr/gwp\\_regs.htm](http://www.cdpr.ca.gov/docs/emon/grndwtr/gwp_regs.htm)

## Mixing with Liquid Fertilizers

**Sulfentrazone 4SC Select™**, may be applied in combination with liquid fertilizers. Local advice regarding fertilizers can yield recommendations of products best suited in your area (e.g., urea or UAN solutions). Follow use and mixing and directions on fertilizer labels. Determine the compatibility of a liquid fertilizer combination before mixing. In a lidded glass jar (~1 quart size), add all mix partners, in their relative proportions. Invert, shake or mix the jar thoroughly. If mixture forms precipitates (flakes or sludge), gels, balls up or forms oily films or layers, this indicates incompatibility. Though signs of incompatibility will typically be seen within 5 minutes of mixing, mixture should be observed for approximately 30 minutes.

## Mixing and Loading Instructions

- **Sulfentrazone 4SC Select™** may be applied on its own or in combination with other herbicides for a broader spectrum of weed control. Combinations with other products may not have been tested, therefore, carry out a compatibility test before mixing and applying. In a lidded glass jar (~1 quart size), add all mix partners, in their relative proportions. Invert, shake or mix the jar thoroughly. If mixture forms precipitates (flakes or sludge), gels, balls up or forms oily films or layers, this indicates incompatibility. Though signs of incompatibility will typically be seen within 5 minutes of mixing, mixture should be observed for approximately 30 minutes.
- Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.
- Spray equipment must be clean and free of product residue prior to mixing an application solution of **Sulfentrazone 4SC Select™**. Refer to Cleaning Directions below and to the cleaning directions of the product(s) previously applied.
- Mix **Sulfentrazone 4SC Select™** using the following procedure:
  1. Fill a clean spray tank with ½ of water required for treatment.
  2. Begin agitation.
  3. Use a clean container to create a slurry of **Sulfentrazone 4SC Select™** and water\*.
  4. Add the slurry slowly to the spray tank, continuing agitation throughout.
  5. Rinse the slurry mix container and add rinsate solution to spray tank.
  6. Finish filling spray tank to required level.
  7. Maintain agitation throughout. The **Sulfentrazone 4SC Select™**/water slurry must be mixed thoroughly prior to application.

\*For best mixing of the **Sulfentrazone 4SC Select™**/water slurry, add the slurry using induction systems on the sprayer fill plumbing system.

- The spray application solution must be applied immediately following mixture.
- Maintain agitation throughout mixture and application.
- Do not store spray solution in the spray tank for an extended period of time, or overnight.
- A tank mixture containing **Sulfentrazone 4SC Select™** must not be premixed in nurse tanks.

### **Cleaning Application Equipment**

Adverse crop reaction may result if residues of this product are left in spray equipment following application. Spray equipment must be cleaned immediately after treatment with **Sulfentrazone 4SC Select™**, and before applications with other products.

- Use the following procedure:
  1. Drain the spray application equipment, including tank, hoses, spray boom and nozzles.
  2. Clean inside the spray tank with a high-pressure detergent, removing residues and sediment.
  3. Thoroughly rinse the spray tank.
  4. Flush the spray system out using water, including hoses, spray boom and spray nozzles.
  5. Combine 3 gallons of ammonia (with a minimum of 3% active ingredient) in 100 gallons of water. Make sufficient cleaning solution to operate the spray application equipment for a minimum of 15 minutes so that the system is thoroughly flushed.
  6. Remove spray tips, and all screens and filters and clean separately using the ammonia solution (step 5).
  7. Leave the cleaning solution or water in the nozzles, spray booms, hoses and spray tank overnight (or during storage) to ensure thorough cleaning.
  8. Drain the system completely prior to re-use. Use clean water to rinse/flush nozzles, spray booms, hoses and the spray tank. Remove spray tips, and all screens and filters and clean separately using the ammonia solution (step 5).
  9. Dispose of rinsate and excess cleaning solution in compliance with Federal, State, and local regulations and guidelines.
- Rinsate and cleaning solution must not be applied to sensitive crops.
- Spray application equipment must not be stored for any extended period while **Sulfentrazone 4SC Select™** application solution remains in the spray lines, nozzles, strainers, or boom plumbing.
- When application equipment has been idle or in storage, flush the nozzles and spray boom with clean water prior to use for application of product.

- If small amounts of this product remain in equipment after cleaning, **Sulfentrazone 4SC Select™** may be released during later applications, which may cause an adverse reaction from certain crops/other vegetation. The applicator is solely responsible for any damage caused by equipment that is not properly cleaned.
- Equipment must not be flushed or drained near desirable plants/trees.
- Ensure that bodies of water are not contaminated with application solution, rinsate or cleaning solution, including water that may be used for other crops, i.e. irrigation water.

### **SPRAY DRIFT REDUCTION ADVISORY**

To avoid drift, do not apply when wind speeds exceed 10 mph. Do not exceed spray pressures of 40 psi unless specified by the manufacturer of drift reducing spray tips and nozzles.

- Select nozzles and pressure that deliver medium or coarser spray droplets as indicated in nozzle manufacturer's catalogs and in accordance with ASABE Standard S-572.
- Select coarse to very coarse droplet size when sulfentrazone is used as a pre-emergent/pre-plant application.
- Select medium to very coarse droplet size when sulfentrazone is used post-emergence 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).

### **Spray Drift Management**

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER.

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. The following drift management requirements must be followed to avoid off-target movement from aerial applications. These requirements do not apply to forestry applications, public health uses or to applications of dry materials.

- The distance of the outermost nozzles on the boom must not exceed 75% the length of the wingspan or rotor.
- Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.
- Observe the regulations of the State where applications are made.
- Applicators must observe and abide by the requirements of the **SPRAY DRIFT REDUCTION ADVISORY**.

## **Information on 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 for pesticide performance. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions. (See information on **Wind, Temperature and Humidity**, and **Temperature Inversions** in subsequent sections).

## **Controlling Spray Droplet Size**

**Volume** - Use high flow rate nozzles to apply the greatest practical spray volume. Nozzles with higher rated flow generally produce larger droplets.

**Pressure** - When higher flow rates are needed, use higher flow rate nozzles rather than increasing spray pressure.

Do not exceed the nozzle manufacturer's specified pressures. Lower pressure produces larger droplets in many types of nozzles.

**Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.

**Nozzle Orientation** - For aerial application, the recommended practice is to orient nozzles so that the spray is released parallel to the airstream. This orientation usually produces larger droplets as compared to other nozzle orientations. Significant nozzle deflection from 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 for both ground and aerial applications. Solid stream nozzles oriented straight back usually produce the largest droplets and the lowest drift potential in aerial applications.

**Boom Length** - For some aerial use patterns, reducing the effective boom length to less than 75% of the wingspan or rotor length may further reduce drift without reducing swath width.

**Application Height** - To minimize spray drift, make applications at a height less than 10 feet above the top of the target plant canopy 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** - When aerial applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by the path of the aircraft upwind. Increase swath adjustment or offset distance when conditions favor increased drift potential (higher winds, smaller droplets, etc.).

**Wind** - Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Do not make applications below 3 mph due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they may potentially 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** - Do not make applications 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 low speed and variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common during conditions of limited cloud cover and little to no wind. They often begin to form as the sun sets and may often continue into the morning. The presence of a temperature inversion may be indicated by ground fog. However if fog is not present, the movement of smoke from a ground source or an aircraft smoke generator can also identify inversions. Smoke that remains in layers and moves laterally in a concentrated cloud (under low speed wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Sensitive Areas** - Only apply pesticide when the wind is blowing away from sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops).

### **Sulfentrazone 4SC Select™ Drift**

If **Sulfentrazone 4SC Select™** solutions drift into non-target areas, contact with other plants/crops can cause adverse reaction. Initially, adverse crop/plant reaction may be in localized areas, depending on factors such as plant sensitivity to the application solution and spray solution droplet size. Lesions or spots caused by drift may or may not coalesce. The effects of drift will not normally cause lasting effects on plant growth, but may adversely affect the value of fruit or foliage where value is affected by appearance. Where plants are sensitive to **Sulfentrazone 4SC Select™** and drift is significant, defoliation may result.

Avoid drift of this product/solutions containing this product to non-target areas by taking adequate notice of the prevailing environmental conditions. Use appropriate and accurately calibrated application equipment and utilize treatment procedures that will minimize the risk of drift.

Misapplication of this product where label directions are not followed may result in drift. The applicator/user of this product is solely responsible for any misapplication of **Sulfentrazone 4SC Select™**.

## TURF GRASSES

**(Including Residential and Institutional Lawns, Athletic Fields, Golf Course Fairways and Roughs, and Commercial Sod Farms)**

\*Not for use in Arizona on grass grown for sod. **Sulfentrazone 4SC Select™** can be used to control broadleaf, grass and sedge weeds in established turfgrasses (seeded, sodded or sprigged). Turf grasses should be established (good root system; uniform stand) tolerant to **Sulfentrazone 4SC Select™** (see below). A healthy root system is necessary to fill in exposed edges, which are more susceptible to **Sulfentrazone 4SC Select™**.

### Tolerant Turf Grasses

<b>Cool Season Grasses - Apply <b>Sulfentrazone 4SC Select™</b> at 4 to 8 oz. per acre (unless noted) to:</b>
Bentgrass, creeping*, Fescue Fine** ( <i>Festuca rubra</i> ), Fescue, Tall** ( <i>Festuca arundinacea</i> ), Ryegrass, Perennial ( <i>Lolium perenne</i> ), Bluegrass, Kentucky ( <i>Poa pratensis</i> ), Bluegrass, Rough*** ( <i>Poa trivialis</i> )
<b>Warm Season Grasses – Apply <b>Sulfentrazone 4SC Select™</b> at 8 to 12 oz. per acre to:</b>
Bahiagrass*** ( <i>Paspalum notatum</i> ), Buffalograss ( <i>Buchloe dactyloides</i> ), Carpetgrass ( <i>Axonopus affinis</i> ), Centipedegrass ( <i>Eremochloa ophiuroides</i> ), Kikuyugrass ( <i>Pennisetum clandestinum</i> ), Seashore Paspalum ( <i>Paspalum vaginatum</i> ), Zoysiagrass*** ( <i>Zoysia japonica</i> ), Bermudagrass ( <i>Cynodon dactylon</i> ), Bermudagrass Hybrids (Cyn bluegrass), St. Augustinegrass*** ( <i>Stenotaphrum secundatum</i> )
*Apply a maximum of 4 oz. <b>Sulfentrazone 4SC Select™</b> to creeping bentgrass. ** An undesirable plant response can occur if applying <b>Sulfentrazone 4SC Select™</b> to certain varieties of Chewings fine fescue or tall fescue. *** St. Augustine grass and some varieties of bahiagrass, rough bluegrass or zoysiagrass, particularly turfgrass that has been stress-weakened can experience temporary leaf surface discoloration (removed upon mowing) upon application of <b>Sulfentrazone 4SC Select™</b> . Chemicals, certain cultural practices, disease, mechanical exposure and cultivation and weather can all be causes of stress-weakened turf.



Not all varieties or cultivars have been tested with **Sulfentrazone 4SC Select™**. Consult with university or weed management specialists for information on using **Sulfentrazone 4SC Select™** with specific local varieties or cultivars of turfgrass. Prior to treatment on new turfgrass varieties, test response to **Sulfentrazone 4SC Select™** by applying to a small area of turfgrass.

Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.

### **Pre-Emergence Weed Control**

When applied as indicated on this label, the following weeds will be controlled or suppressed with **Sulfentrazone 4SC Select™**:

- **Summer Annual Weeds** – Apply in early Spring, prior to germination of weed seeds.

#### **Broadleaf Weeds:**

Black medic (*Medicago lupulina*)

Knotweed, prostrate (*Polygonum aviculare*)

Pigweed, redroot (*Amaranthus retroflexus*)

Pigweed, smooth (*Amaranthus hybridus*)

Purslane, common (*Portulaca oleracea*)

Spurge (*Euphorbia* spp.)

Spurge, prostrate (*Euphorbia supine*)

Spurge, spotted (*Euphorbia maculate*)

#### **Grassy Weeds:**

Barnyardgrass (*Echinochloa crusgalli*)

Crabgrass, large (*Digitaria sanguinalis*)

Crabgrass, smooth (*Digitaria ischaemum*)

Foxtail, green (*Setaria viridis*)

Foxtail, yellow (*Setaria glauca*)

Goosegrass (*Eleusine indica*)

- **Winter Annual Weeds** – Apply in late Summer or early Fall.

**Broadleaf Weeds:**

Buttercups (*Ranunculus* spp.)

Chickweed, common (*Stellaria media*)

Chickweed, mouseear (*Cerastium vulgatum*)

Corn Speedwell (*Veronica arvensis*)

Geranium, Carolina (*Geranium carolinianum*)

Groundsel, common (*Senecio vulgaris*)

Hairy bittercress (*Cardamine hirsute*)

Henbit (*Lamium amplexicaule*)

Knawel (*Scleranthus annuus*)

Large Hop clover (*Trifolium campestre*)

Parsley piert (*Alchemilla microcarpa*)

Spurweed (*Soliva pterosperma*)

Violet, Johnny-jump-up (*Viola rafinesquii*)

**Grassy Weeds:**

Annual bluegrass (*Poa annua*)

Annual ryegrass (*Lolium multiflorum*)

## Post-Emergence Weed Control

When applied as indicated on this label, the following weeds in turfgrass will be controlled or suppressed with **Sulfentrazone 4SC Select™**:

### Broadleaf Weeds:

- |  |   |
|--|---|
| Bedstraw, catchweed ( <i>Galium aparine</i> )      | Lambsquarters, common<br>( <i>Chenopodium album</i> ) |
| Beggarweed, Florida ( <i>Desmodium tortuosum</i> ) | Lawn burweed (spurweed) ( <i>Soliva pterosperma</i> ) |
| Bittercress ( <i>Cardamine</i> spp.)               | Lespedeza, common ( <i>Lespedeza striata</i> )        |
| Black Medic ( <i>Medicago lupulina</i> )           | Mallow, common ( <i>Malva neglecta</i> )              |
| Buttercup ( <i>Ranunculus</i> spp.)                | Onion, wild ( <i>Allium canadense</i> )               |
| Carolina geranium ( <i>Geranium carolinianum</i> ) | Parsley piert ( <i>Alchemilla arvensis</i> )          |
| Carpetweed ( <i>Mollugo verticillata</i> )         | Pigweed, redroot ( <i>Amaranthus retroflexus</i> )    |
| Chickweed, common ( <i>Stellaria media</i> )       | Pigweed, smooth ( <i>Amaranthus hybridus</i> )        |
| Chickweed, mouseear ( <i>Cerastium vulgatum</i> )  | Pigweed, tumble ( <i>Amaranthus albus</i> )           |
| Cinquefoil ( <i>Potentilla</i> spp.)               | Pineapple weed ( <i>Matricaria matricarioides</i> )   |
| Clover ( <i>Trifolium</i> spp.)                    | Plantain, buckhorn ( <i>Plantago lanceolata</i> )     |
| Copperleaf ( <i>Acalypha</i> spp.)                 | Puncture weed ( <i>Tribulus terrestris</i> )          |
| Cudweed ( <i>Gnaphalium</i> spp.)                  | Purslane, common ( <i>Portulaca oleracea</i> )        |
| Dandelion ( <i>Taraxacum officinale</i> )          | Pusley, Florida ( <i>Richardia scabra</i> )           |
| Dock, curly ( <i>Rumex crispus</i> )               | Redweed ( <i>Melochia corchorifolia</i> )             |
| Dollarweed ( <i>Hydrocotyle umbellata</i> )        | Rocket, London ( <i>Sisymbrium irio</i> )             |
| Eclipta ( <i>Eclipta prostrata</i> )               | Shepherd's purse ( <i>Capsella bursa pastoris</i> )   |
| Evening primrose ( <i>Oenothera biennis</i> )      | Smartweed, PA ( <i>Polygonum pensylvanicum</i> )      |
| Fiddleneck ( <i>Amsinckia</i> spp.)                | Sorrel, red ( <i>Rumex acetosella</i> )               |
| Filaree ( <i>Erodium</i> spp.)                     | Speedwell ( <i>Veronica</i> spp.)                     |
| Galinsoga ( <i>Galinsoga ciliate</i> )             | Spurge, annual ( <i>Euphorbia</i> spp.)               |
| Garlic, wild ( <i>Allium vineale</i> )             | Spurge, prostrate ( <i>Euphorbia humistrata</i> )     |
| Goldenrod ( <i>Solidago</i> spp.)                  |   |
| Ground ivy ( <i>Glechoma hederacea</i> )           |   |
| Groundsel, common ( <i>Senecio vulgaris</i> )      |   |
| Henbit ( <i>Lamium amplexicaule</i> )              |   |
| Knawel ( <i>Scleranthus annuus</i> )               |   |
| Knotweed, prostrate ( <i>Polygonum aviculare</i> ) |   |
| Kochia ( <i>Kochia scoparia</i> )                  |   |

### **Broadleaf Weeds:** *(continued)*

Spurge, spotted (*Euphorbia maculata*)

Star of Bethlehem (*Ornithogalum umbellatum*)

Velvetleaf (*Abutilon theophrasti*)

Violet, wild (*Viola pratensis*)

Violet, Johnny-jump-up (*Viola rafinesquii*)

Woodsorrel, creeping (*Oxalis corniculata*)

Woodsorrel, yellow (*Oxalis stricta*)

### **Grassy Weeds:**

Goosegrass (*Eleusine indica*)

### **Sedges:**

Kyllinga, green (*Kyllinga brevifolia*)

Kyllinga, false green (*Kyllinga gracillima*)

Nutsedge, purple (*Cyperus rotundus*)\*

Nutsedge, yellow (*Cyperus esculentus*)

Sedge, cylindrical (*Cyperus retrorsus*)

Sedge, globe (*Cyperus globulosus*)

Sedge, Surinam (*Cyperus surinamensis*)

Sedge, Texas (*Cyperus polystachyos*)

**\*NOTE:** Split applications give optimum control of purple nutsedge. When actively growing purple nutsedge is evident, apply as indicated below:

- **Cool Season Grasses:** 2 – 4 fl. oz. **Sulfentrazone 4SC Select™** per acre first application, followed by second application of 4 – 6 fl. oz. per acre (do not exceed 8 fl. oz. total on cool season grasses).
- **Warm Season Grasses:** 6 – 8 fl. oz. **Sulfentrazone 4SC Select™** per acre first application, followed by second application of 4 – 6 fl. oz. per acre (do not exceed 12 fl. oz. total on warm season grasses).

Observe maximum rate per acre based on turf variety, as indicated above.

Allow 35 days between applications.

### **Application Instructions**

Apply amount of **Sulfentrazone 4SC Select™** indicated above to turfgrass to control or suppress indicated weeds.

Best control is achieved with grassy weeds when applied with grasses are actively growing and small (pre-tiller stage). Application rates lower than 12 fl. oz./acre will control grasses for 60 days.

Optimum control of broadleaf weeds will occur if application is made shortly after weed emergence.

Applications to sprigged, overseeded or reseeded areas: Turfgrasses can be sprigged, overseeded or reseeded after **Sulfentrazone 4SC Select™** applications. Best results are obtained from waiting at least 1 month after **Sulfentrazone 4SC Select™** application before sprigging, overseeding or reseeding. If slight plant response can be tolerated, overseeding of Bermudagrass with perennial ryegrass can be done between 2 to 4 weeks after **Sulfentrazone 4SC Select™** application.

Observing proper fertilization, irrigation and soil cultivating practices, and using mechanical or power seeding equipment will give optimum overseeding or reseeding results.

Optimum weed control is obtained with thorough spray coverage.

### **Tank Mixes and Adjuvants**

Tank mixing with other pesticides registered for use on turfgrass can extend the weed control range and enhance efficacy of **Sulfentrazone 4SC Select™** for both pre-emergence and post-emergence control. Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Use of adjuvants or surfactants with **Sulfentrazone 4SC Select™** can cause short-term discoloration of some turf species. Prime Source, a division of Albaugh, LLC does not advise use of **Sulfentrazone 4SC Select™** with surfactants or adjuvants.

### **Precautions:**

- Establish sod production areas for 3 months before initial treatment with **Sulfentrazone 4SC Select™**.
- Temporary undesirable effects can be caused by the use of surfactants with **Sulfentrazone 4SC Select™**. Perform an on-site evaluation of surfactants for effects to turfgrasses and mixture compatibility prior to use.
- Use of **Sulfentrazone 4SC Select™** with surfactants is not advised unless surfactant/sulfentrazone combinations have previously proven to be safe to a particular turf variety.
- Use of **Sulfentrazone 4SC Select™** mixed with or applied within 7 days of herbicides containing the active ingredient trinexapac-ethyl can result in temporary turfgrass discoloration. Applying **Sulfentrazone 4SC Select™** and trinexapac-ethyl herbicides 7 or more days apart decreases possibility of discoloration.

## Restrictions:

- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Maximum single application rate is 8 fl. oz. product (0.25 lb. a.i.) for cold season grasses and 12 fl. oz. product (0.375 lb. a.i.) for warm season grasses.
- Pre-harvest interval is 3 months.
- Do not apply to ornamental beds or landscape ornamental plants.
- Do not feed forage or allow grazing of turf treated with **Sulfentrazone 4SC Select™**.
- Allow 35 days between applications.
- Do not apply **Sulfentrazone 4SC Select™** to tees or putting greens on golf courses.

## NON-CROP USES

### For use in Railroad, Highway, Roadside, Pipeline and Utility Rights of Way, Industrial Areas, Fence Rows, and Other Listed Non-Crop Sites

Apply **Sulfentrazone 4SC Select™** to control susceptible weeds, maintain bare ground and complete vegetation control, and for residual control of germinating weeds in non-cropland.

When applied as indicated on this label, the following weeds will be controlled with **Sulfentrazone 4SC Select™**:

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)  
(*Physalis heterophylla*)

Groundcherry, cutleaf (*Physalis angulata*)

Jimsonweed (*Datura stramonium*)

Kochia (*Kochia scoparia*)

ALS/Triazine resistant Kochia (*Kochia scoparia*)

Lambsquarters, common (*Chenopodium album*)

Lettuce, wild (*Lactuca virosa*)

(continued)

When applied as indicated on this label, the following weeds will be controlled with **Sulfentrazone 4SC Select™**: (continued)

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 palustris*)

Thistle, Russian (*Salsola iberica*)

Waterhemp, tall (*Amaranthus tuberculatus*)

Waterhemp, common (*Amaranthus rudis*)

See **Listed Weed Species** section of this label for information on additional weeds. Application can be made to non-crop use sites including:

- **Railroad Rights-of-Way** – including railroad yards, railroad crossings and railroad bridge abutments.
- **Highway, Roadside, Pipeline and Utility Rights-Of-Way** – including, but not limited to guardrails, road shoulders, electric utility substations, pipeline pumping stations, around electric transmission towers, around distribution line poles and other areas where complete vegetation control is needed.
- **Industrial Areas, Fence Rows and Other Non-Crop Sites** – including production facilities, tank farms, storage areas, parking areas, lumber yards, airports, military installations, along fence rows and similar non-crop sites.

## Application Rates

Apply 8 – 12 fl. oz./acre.

Use higher Rates:

- To extend length of control.
- On soils with fine soil textures.
- On soils with more than 2% organic matter.

### Application Instructions:

Apply **Sulfentrazone 4SC Select™** as a broadcast treatment at rates indicated, in enough water to obtain good coverage and to make at least 10 gallons finished spray per acre.

In order to assure appropriate amounts of moisture for activation of product, best results will be obtained if **Sulfentrazone 4SC Select™** is applied in early Spring, late Summer, or Fall.

Make application with a boom and nozzle sprayer or boom-less application system. Make application at spray pressure of 25 psi or below, unless the manufacturer specifies otherwise. Achieve best possible spray delivery and coverage, with minimum amounts of fine spray droplets by utilizing properly chosen and adjusted nozzles, spray tips, and screens.

Applications only to railroad rights of way can be made by helicopter.

### Restrictions:

- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Maximum single application rate is 12 fl. oz. product (0.375 lb. a.i.) per acre.
- Do not use on soils with less than 1% organic matter (sandy soils).
- Applications by helicopter can only be made to railroad rights of way.

**Tank Mixes:** Tank mix **Sulfentrazone 4SC Select™** with burndown herbicides (such as 2,4-D, dicamba, diquat, glyphosate, glyphosate trimesium, etc.). Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Adjuvants recommended for tank mix partner can be used.



## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Do not use or store around the home.

**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.

**Pesticide Disposal:** Waste resulting from the use of this product may be disposed of at an approved waste disposal facility.

### **Container Handling:**

**Nonrefillable Container (Equal to or Less than 5 Gallons):** 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  $\frac{1}{4}$  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. Offer for recycling, if available. If recycling is not available, puncture or dispose of in a sanitary landfill or incineration or if allowed by state and local authorities, by burning. If burned stay out of smoke.

**Steps to be taken in case material is released or spilled:** In case of release or spill, isolate area and keep unprotected persons or animals away from area. Dike and contain the spill with inert material (sand, earth, cat litter or commercial clay, etc.) and transfer liquid and solid diking material to separate containers for disposal. Remove contaminated clothing and wash affected skin areas with soap and water. Wash clothing before re-use. Keep the spill out of all sewers and open bodies of water.

## **LIMITATION OF WARRANTY AND LIABILITY**

Read the entire direction for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following **CONDITIONS, DISCLAIMER OF WARRANTIES, and LIMITATIONS OF LIABILITY.**

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risk associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Prime Source, a division of Albaugh, LLC. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, Prime Source, a division of Albaugh, LLC makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of Prime Source, a division of Albaugh, LLC is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Prime Source, a division of Albaugh, LLC disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

**LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Prime Source, a division of Albaugh, LLC's election, the replacement of product.

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