



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Registration Division (7505T)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

EPA Reg. Number:

101458-18

Date of Issuance:

9/9/25

NOTICE OF PESTICIDE:

☒ Registration
☐ Reregistration
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

Crop Protect Direct Sulfen 4SC

Name and Address of Registrant (include ZIP Code):

Jabco, LLC
550 W. Pioneer Blvd., Suite 140
Mesquite, NV 89027

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

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

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

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

1. Submit and/or cite all data required for registration/registration review of your product when the Agency requires all registrants of similar products to submit such data.

Continues page 2

Signature of Approving Official:

Mindy Ondish, Product Manager 23
Herbicide Branch, Registration Division (7505T)

Date:

9/9/25

2. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA 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) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

The alternate brand name, **"Crop Protect Direct Sulfen 4SC Herbicide"** has been added to the product record.

The record for this product currently contains the following CSF(s):

- Basic CSF dated 06/16/2025

If you have any questions, please contact Margaret Golembiewski at (202)566-0304 or at golembiewski.margaret@epa.gov.

Enclosure

SULFENTRAZONE

GROUP

14

HERBICIDE

Crop Protect Direct Sulfen 4SC

ABN: Crop Protect Direct Sulfen 4SC Herbicide

Master label consisting of:

Pages 2-33 - Sub-Label A:**Agricultural Uses (Including Sod Farms)**

Asparagus, Berries (Crop Group 13-07), Brassica (Head & Stem), Brassica (Leafy Greens), Cabbage (Transplanted Only), Citrus (Crop Group 10), Corn (Field, Seed, Pop), Beans & Peas (Dry Shelled), Flax, Fruiting Vegetables (except cucurbits), Okra, Grapes, Horseradish, Lima Beans (succulent), Melons, Mint, Peanuts, Potatoes, Rhubarb, Soybean, Peas (Succulent), Sugarcane, Sunflower, Tobacco, Tomato, Tree Nuts, Turfgrasses, Turnips, Wheat (Spring), Vegetable Soybean (Edamame), Railroad, Highway, Roadside, Pipeline and Utility Rights of Way, Industrial Areas, Fence Rows, and Other Listed Non-Crop Sites

Pages 34-44 - Sub-Label B:**Turfgrasses & 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

Pages 45-74 - Sub-Label C:**Agricultural Uses**

Asparagus, Berries (Crop Group 13-07), Brassica (Head & Stem), Brassica (Leafy Greens), Cabbage (Transplanted Only), Citrus (Crop Group 10), Corn (Field, Seed, Pop), Beans & Peas (Dry Shelled), Flax, Fruiting Vegetables (except cucurbits), Okra, Grapes, Horseradish, Lima Beans (succulent), Melons, Mint, Peanuts, Potatoes, Rhubarb, Soybean, Peas (Succulent), Sugarcane, Sunflower, Tobacco, Tomato, Tree Nuts, Turnips, Wheat (Spring), Vegetable Soybean (Edamame)

Page 75-83 - Sub-Label D:**Non-Crop Only**

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

Page 84: Small Container Base Label**ACTIVE INGREDIENT:**

Sulfentrazone: N-{2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazole-1-yl]phenyl}methanesulfonamide

WT. BY %

..... 39.6%

OTHER INGREDIENTS: 60.4%

TOTAL: 100.0%

It is a Suspension Concentrate, Contains 4.0 lbs. active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCIÓN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.

(If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • 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.
EMERGENCY NUMBERS	
<p>Emergency - You may also contact the Poison Control Center at 1-800-222-1222 for emergency medical treatment information. Non-emergency-National Pesticides Information Center (NPIC): 1-800-858-7378, Monday through Friday, 8 AM to 12 PM PST, or at http://npic.orst.edu. For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 or 1-703-527-3887 (collect calls accepted)</p>	

[Optional referral statements when booklets and container labels are used:

See Panel for First Aid Instructions and booklet for complete Precautionary Statements and Directions for Use.

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

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See label booklet for complete Directions For Use.]

Manufactured [For/by]:

JABCO, LLC

550 W Pioneer Blvd, Suite 140

Mesquite, NV 89027

ACCEPTED

09/09/2025

Under the Federal Insecticide, Fungicide
and Rodenticide Act as amended, for the
pesticide registered under
EPA Reg. No. 101458-18

EPA Reg. No. 101458-18

EPA Est.: _____

Net Contents: _____ [Gallons/Liters]

Pages 2-33 - Sub-Label A:

SULFENTRAZONE	GROUP	14	HERBICIDE
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Crop Protect Direct Sulfen 4SC

ABN: Crop Protect Direct Sulfen 4SC Herbicide

Agricultural Uses (Including Sod Farms)

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See label booklet for complete Directions For Use.]

Manufactured [For/by]:

JABCO, LLC
550 W Pioneer Blvd, Suite 140
Mesquite, NV 89027

EPA Reg. No. 101458-18

EPA Est.: _____

Net Contents: _____ [Gallons/Liters]

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, polyvinyl chloride ≥14 mils, or Viton ≥14 mils
- Shoes plus socks

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands thoroughly after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

Do not make an application of this product through any type of irrigation system. Do not make an application of 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 treatment. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

DO NOT exceed specified label rates listed in this label. Refer to the directions for use for maximum use rates for specific crops. Calculate the 12-month period for the purpose of maximum use rates from the time that this product is first applied.

FOR ALL TANK MIXTURES: It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

ENVIRONMENTAL HAZARDS

This product 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 run off may be hazardous to terrestrial and aquatic plants adjacent to treated areas. Do not apply when weather conditions favor drift from the area treated. Do not apply where runoff is likely to occur. Do not contaminate water when disposing of equipment washwaters. Apply this product only as specified on this label.

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 this product on coarse soils, such as sand, which has 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 months post application. These include poorly draining or wet soils with readily visible slopes towards adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filler strips, and areas over-lying tile drainage systems that drain to surface waters.

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
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, polyethylene, polyvinyl chloride ≥14 mils, or Viton® ≥14 mils
- 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.

Do not enter or allow others to enter treated areas until sprays have dried.

PRODUCT INFORMATION

Crop Protect Direct Sulfen 4SC is a soil-applied selective herbicide that controls specific grasses, sedges, and broadleaf weeds. Sulfentrazone, the active ingredient in this product, inhibits a plant enzyme that is required for producing chlorophyll. Disabling this enzyme causes the release of singlet oxygen (O) that disrupts cellular membranes, causing cell leakage and cell death, which ultimately results in weed death.

PROPER HANDLING INSTRUCTIONS

Restrictions:

- Do not mix or load **Crop Protect Direct Sulfen 4SC** within 50 feet of any well, including abandoned wells, 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 wells and does not apply to impervious pads or properly diked mixing/loading areas.
- Do not apply this product through any type of irrigation system. Do not use flood irrigation to apply or incorporate this product.

Operations that involve mixing, loading, rinsing, or washing to **Crop Protect Direct Sulfen 4SC** into or from pesticide handling or application equipment or container 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 washwater 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 a minimum of 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 excluded 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.

Crop Protect Direct Sulfen 4SC must be used in a manner which will prevent back siphoning in wells, spills, or improper disposal of excess pesticide, spray mixtures or rinsates.

APPLICATION INSTRUCTIONS

See the crop specific instructions below for additional use precautions/restrictions.

Apply Crop Protect Direct Sulfen 4SC as a surface application, pre-emergence application before crop/weed emergence, or incorporated into the soil prior to planting. **Crop Protect Direct Sulfen 4SC** can also be applied post-plant application, over-the-top, and layby.

Incorporated Treatment Prior to Planting

Crop Protect Direct Sulfen 4SC must be incorporated using a uniform surface application to a maximum depth of 2". Reduced control will occur if incorporated to a depth greater than 2". Be careful to ensure that there is no overlap between treated areas due to soil movement, or crop injury may occur.

Soil Applied/Post-Plant Treatments

Crop Protect Direct Sulfen 4SC must be activated by moisture if making soil/post-plant treatments. The amount of moisture required depends on the soil type, amount of organic matter present, tilth, and existing soil moisture. 0.5 - 1.0" of irrigation or rainfall is required 7-10 days post-application. If 0.5 - 1.0" of moisture is not obtained, incorporate in shallow soil to obtain adequate control of target species. Moisture activation can be delayed for 10-14 days depending on soil type, amount of organic matter present, tilth, and existing soil moisture. If moisture activation is delayed, control may be reduced.

Crop Protect Direct Sulfen 4SC will control listed weed species when activated. The level of control depends on the size and type of weed species. Control of listed germinating weeds will be reduced when rain or irrigation follows a period of dry weather.

Apply **Crop Protect Direct Sulfen 4SC** prior to the germination of crop seeds in order to avoid damage to emerging seedlings. Crop injury can occur if treatment is delayed; seeds are germinating, and are close to the soil surface.

Surface Applications

If activation has not been triggered by rainfall or irrigation within 10 days of the application, make a shallow incorporated treatment (<2") in order to control germinating weed species. Soil incorporation will facilitate **Crop Protect Direct Sulfen 4SC** activation with existing soil moisture. If there are drought conditions or prolonged periods when rain/irrigation is not possible, do not use **Crop Protect Direct Sulfen 4SC**, and consider another weed control method.

Post-Plant Treatments must be made precisely according to crop specific directions.

Lay-By/Over-The-Top applications control listed weed species through contact and residual control (depending on weed species). Surfactant use can improve weed control and/or increase the likelihood of crop injury.

Certain crops will respond differently to **Crop Protect Direct Sulfen 4SC** treatments depending on use rate, specific crop species sensitivity, and the composition of the soil.

Seedlings and germinating seeds absorb **Crop Protect Direct Sulfen 4SC** from the soil solution. The amount of active ingredient present in the soil depends on the soil type, pH, and the amount of organic matter present.

Crop Protect Direct Sulfen 4SC is absorbed by organic matter and clay parts of soils. This absorption reduces the amount of active ingredient available for weed uptake. Clay content in soil tends to increase as the soil gets finer. Crop use directions are indicated per soil types. Refer to the following chart to determine the category of a particular soil type:

Coarse Soil	Sand, loamy sand, sandy loam
Medium Soil	Sandy clay loam, sandy clay, loam, silt loam, silt
Fine Soil	Silty clay loam, Silty clay, clay loam, clay

The amount of organic matter in soils varies within soil classifications. A detailed soil analysis is required to make an accurate assessment of the amount of organic matter in the soil.

The amount of sulfentrazone available for weed uptake increases as the soil pH increases. Take soil samples to accurately determine soil pH. The use of alkaline water will increase the amount of available sulfentrazone for weed uptake. However, if irrigation water pH is >7.5 crop injury can occur. The likelihood of crop injury due to high soil pH decreases as the plant grows.

Use rates for **Crop Protect Direct Sulfen 4SC** are determined by the timing of application, the amount of activating moisture (rainfall/irrigation), soil characteristics, and soil pH.

Crop specific use rates for each crop are based on soil type, amount of organic matter in soil, and soil/pH interaction.

Ground Application Instructions

Apply **Crop Protect Direct Sulfen 4SC** with a boom and nozzle sprayer that contains the appropriate spray tips, screens, and nozzles. Calibrate application equipment for optimal coverage and spray distribution at the appropriate pressure. Use spray nozzles designed to minimize drift and keep fine spray droplets to a minimum. Make application of **Crop Protect Direct Sulfen 4SC** in a minimum spray volume of 10 gallons per acre. Overlapping application areas can injure crops. When starting, turning or stopping, slower ground speed of the application equipment can lead to crop injury. **Do not** apply **Crop Protect Direct Sulfen 4SC** when wind speed is likely to cause the product to drift outside the target area.

Aerial Application Instructions

Apply **Crop Protect Direct Sulfen 4SC** with appropriate nozzles that provide optimal coverage, minimize drift and keep fine droplets to a minimum. Make application of **Crop Protect Direct Sulfen 4SC** in a volume that is appropriate to provide sufficient coverage. Use a minimum spray volume of 5 gallons per acre. **Do not** apply **Crop Protect Direct Sulfen 4SC** when wind speed is likely to cause the product to drift outside the target area.

Aerial Application Restrictions

- Aerial application is allowed only when environmental conditions prohibit ground application. Aerial application will be allowed when the field is too wet to safely apply pesticides using ground equipment.
- When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.
- 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.

CALIFORNIA SPECIFIC RESTRICTIONS

Runoff Groundwater Protection Areas: Do not apply **Crop Protect Direct Sulfen 4SC** in areas defined by the California Department of Pesticide Regulation as being "runoff groundwater protection areas*" unless one of the following management practices can be met:

- 1) **Soil Disturbance:** The treated soil is distributed within 7 days of application using a disc, harrow, rotary tiller or other mechanical device. This subsection does not apply to the area to be treated that is immediately adjacent to the crop row and that does not exceed 33% of the distance between crop row or in citrus, to the band from the tree row to the dripline; or
- 2) **Pesticide Incorporation:** The pesticide shall be incorporated on 90% of the area treated within 48 hours of application using disc, harrow, rotary tiller or other mechanical device, or by sprinkler/low-flow irrigation (including chemigation where allowed by the

label), using $\frac{1}{4}$ " - 1" irrigation water as described in the **APPLICATION INSTRUCTIONS**, at application rates that do not cause surface water runoff from the treated property or to wells on the treated property; or

- 3) **Band Treatment:** This product is applied as a band treatment immediately adjacent to the crop row so that no more than 33% of the distance between rows is treated, or, in citrus, not more than the area from the tree row to the dripline is treated; or
- 4) **Timing of Application:** This product is applied between April 1st and July 31st; or
- 5) **Retention of Runoff on Field:** For 6 months post-application the field shall be designed to retain all irrigation runoff and all precipitation on, and drainage through the field by berms, levees, or non-draining circulation systems. The retention area on the field shall not have a percolation rate of more than 0.2" per hour (5"/24 hours); or
- 6) **Retention of Runoff in a Holding Area off the Field:** For 6 months post-application, all runoff shall be channeled to a holding area off of 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" per hour (5"/24 hours); or
- 7) **Runoff onto a Fallow Field:** For 6 months post-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.

Leaching Groundwater Protection Areas

Do not use in areas designed by the California Department of Pesticide Regulation as leaching groundwater protection areas* unless either:

- 1) The user does not apply any irrigation water for 6 months following the application of this product; or
- 2) 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
- 3) 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 Groundwater Protection Area or a Leaching Groundwater 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

Application in Combination with Dry Fertilizers

Crop Protect Direct Sulfen 4SC can be impregnated with and applied in conjunction with a dry bulk fertilizer. Apply **Crop Protect Direct Sulfen 4SC** and dry bulk fertilizer with ground application equipment. Do not make aerial applications of **Crop Protect Direct Sulfen 4SC** in combination with dry bulk fertilizer. Follow State regulations in the preparation of **Crop Protect Direct Sulfen 4SC**/fertilizer combinations, including mixture preparation, storage, transportation, selling, and treatment.

Directions for Dry Bulk Fertilizer Impregnation

Use the following method for impregnation:

1. Ensure that spray nozzles are calibrated and positioned for uniform **Crop Protect Direct Sulfen 4SC** coverage of the dry fertilizer during the mixture process.
2. Make a slurry with **Crop Protect Direct Sulfen 4SC** and water in a clean container.
3. Once made, add the **Crop Protect Direct Sulfen 4SC**/water slurry to the impregnation spray tank.
4. Finish the solution by adding water as required.

Use a dry bulk fertilizer blender such as a closed rotary-drum mixer that is fitted with appropriate spray application equipment. See the **Cleaning Application Equipment** section below prior to cleaning equipment used for impregnation, transportation, loading, and application of the **Crop Protect Direct Sulfen 4SC**/dry fertilizer combination. Do not attempt to impregnate coated ammonium nitrate or limestone with **Crop Protect Direct Sulfen 4SC** as neither can absorb the herbicide.

Application Instructions for Crop Protect Direct Sulfen 4SC Impregnated Dry Fertilizers

Dry fertilizer impregnated with **Crop Protect Direct Sulfen 4SC** must be applied using a dry fertilizer spreader. The application equipment must be correctly calibrated for sufficient and uniform coverage of the soil surface. If treatment is not uniform, some areas may go untreated which may cause reduced control of target species. Avoid overlapping applications, which may cause labeled use rates to be exceeded, and may cause adverse crop response. Apply the dry fertilizer/**Crop Protect Direct Sulfen 4SC** combination at a rate of 200 lbs. impregnated dry bulk fertilizer per acre in order to provide sufficient soil coverage. See the specific crop use instructions for the specified rate of **Crop Protect Direct Sulfen 4SC** per acre. Use the following equation to calculate the amount of **Crop Protect Direct Sulfen 4SC** that must be used to impregnate 2,000 lbs. (one ton) of dry bulk fertilizer:

$$\text{Fl. Oz. of Crop Protect Direct Sulfen 4SC to be Applied/Ton of Dry Bulk Fertilizer} = \text{Fl. Oz. of Crop Protect Direct Sulfen 4SC} \times 2,000 \div \text{Lbs. Dry Bulk Fertilizer Applied/Acre}$$

Example 1: If use rate of **Crop Protect Direct Sulfen 4SC** is 8 fl. oz. per acre, and 200 lbs. fertilizer will be applied per acre:

$$(8) (2,000/200) = 80 \text{ fl. oz. of Crop Protect Direct Sulfen 4SC per ton of dry bulk fertilizer.}$$

Example 2: If use rate of **Crop Protect Direct Sulfen 4SC** is 12 fl. oz. per acre and 400 lbs. fertilizer will be applied per acre:

$$(12) (2,000/400) = 60 \text{ fl. oz. Crop Protect Direct Sulfen 4SC per ton of dry bulk fertilizer.}$$

Application in Combination with Liquid Fertilizers

When applied in combination with a liquid fertilizer **Crop Protect Direct Sulfen 4SC** will control listed weeds. Sufficient soil coverage is critical to control target weeds. Fertilizer solutions that are used as a carrier for **Crop Protect Direct Sulfen 4SC** may be concentrated formulations as blended or diluted in water.

Use Directions for Liquid Fertilizer Combination

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

- The selected spray system must have the spray capacity to allow uniform application of the treatment solution, and must be capable of maintaining agitation in the spray tank throughout the mixture and application procedures.
- Some spray application systems might need separate pumps to apply the solution and maintain agitation at the same time.
- Prior to combining the liquid fertilizer and **Crop Protect Direct Sulfen 4SC** in the application tank, carry out a 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).
- Combine **Crop Protect Direct Sulfen 4SC** and the carrier liquid fertilizer as follows:
 1. Fill a clean spray tank $\frac{1}{2}$ full of fertilizer solution.
 2. Begin agitation of the fertilizer solution.
 3. Use a clean container to create a slurry of **Crop Protect Direct Sulfen 4SC** and water (equal parts of both)*.
 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 **Crop Protect Direct Sulfen 4SC**/water slurry must be mixed thoroughly prior to application.

*For best mixing of the **Crop Protect Direct Sulfen 4SC**/water slurry, add the slurry using induction systems on the spray fill plumbing system.

Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates, timings, and other restrictions.

Application Instructions for Crop Protect Direct Sulfen 4SC Mixed with Liquid Fertilizers

- The spray application solution must be applied immediately following preparation.
- Maintain agitation throughout mixture and application.
- Do not store spray solution in the spray tank for an extended period of time, or overnight.
- A combination of **Crop Protect Direct Sulfen 4SC** and liquid fertilizer must not be premixed in nurse tanks.
- Applicators/sellers of liquid fertilizer must follow State regulations for liquid fertilizers, including those regarding preparation, blending, registration, transportation, selling, treatment, and storage.

Band Treatment Applications

Crop Protect Direct Sulfen 4SC can be applied as a banded treatment application. When calculating rates for band treatment, apply the equivalent volume per acre for broadcast treatment by using the following equation:

$$\text{Band Rate or Volume} = \frac{\text{Broadcast Rate (Fl. Oz./Acre) or Volume Per Acre}}{\text{Band Width (In Inches)}} \times \text{Row Width (In Inches)}$$

Mixing and Loading Instructions

- **Crop Protect Direct Sulfen 4SC** 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 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, timings, and other restrictions.
- Spray equipment must be clean and free of product residue prior to mixing an application solution of **Crop Protect Direct Sulfen 4SC**. Refer to the cleaning directions below and to the cleaning directions of the product(s) previously applied.
- Mix **Crop Protect Direct Sulfen 4SC** as follows:
 1. Fill a clean spray tank $\frac{1}{2}$ full of water required for treatment.
 2. Begin agitation.
 3. Use a clean container to create a slurry of **Crop Protect Direct Sulfen 4SC** 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 **Crop Protect Direct Sulfen 4SC**/water slurry must be mixed thoroughly prior to application.

*For best mixing of the **Crop Protect Direct Sulfen 45C**/water slurry, add the slurry using induction systems on the spray fill plumbing system.

- Apply the herbicide solution immediately following mixing.
- Maintain mixing throughout application.
- Do not store spray solution in the spray tank for an extended period of time or overnight.
- A tank mixture containing **Crop Protect Direct Sulfen 45C** must not be premixed in nurse tanks.

Cleaning Application Equipment

Crop injury can occur if residues of **Crop Protect Direct Sulfen 45C** are left in the spray tank following application. Application equipment must be cleaned immediately after treatment with **Crop Protect Direct Sulfen 45C**, and before applications with other products. Use the following cleaning 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 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.
 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.
 9. Dispose of rinsate and excess cleaning solution in compliance with Federal, State, and local regulations and guidelines.
- Do not apply rinsate and cleaning solution to sensitive crops.
 - Do not store spray equipment for any extended period of time with **Crop Protect Direct Sulfen 45C** solution remains in the spray lines, nozzles, strainers, or boom plumbing.
 - Flush the nozzles and spray boom with clean water prior to use when application equipment has been idle or sitting in storage.
 - If small amounts of **Crop Protect Direct Sulfen 45C** remain in the equipment after cleaning, **Crop Protect Direct Sulfen 45C** may be released during later applications, which may cause crop injury to certain crops and/or 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.

MANDATORY SPRAY DRIFT MANAGEMENT

Ground Application

- Utilize a boom and nozzle sprayer equipped with the appropriate nozzles, spray tips and screens and adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures.
- 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 used as a preemergent/preplant application.
- Select medium to very coarse droplet size when used postemergence with a contact burndown herbicide.
- Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE standard).
- Apply a minimum of 10 gallons of finished spray per acre by ground.
- When mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre. Be aware that overlaps and slower ground speeds while starting, stopping or turning while spraying may result in excessive application and subsequent crop response.
- Do not apply when wind speed favors drift beyond the area intended for treatment. Applicators may spray only when wind speed is between 3 and 10 mph.
- For boom spraying, the maximum release height is 30 inches from the soil.

Aerial Application

- Aerial application is allowed only when environmental conditions prohibit ground application.
- When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.
- The maximum release height must be 10 feet from the top of the canopy, unless a greater application height is required for pilot safety.
- 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 used as a preemergent/preplant application. Select medium to very coarse droplet size when used postemergence with a contact burndown herbicide.
- Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE standard).
- Do not apply when wind speed favors drift beyond the area intended for treatment. Applicators may spray only when wind speed is between 3 and 10 mph.

SPRAY DRIFT REDUCTION ADVISORIES

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

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 Droplet Size

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

Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE. Do not exceed the nozzle manufacturer's specified pressures.

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 <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 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 affect spray drift.

Temperature and Humidity

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

Temperature Inversions

Applications must 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 temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

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

Off-Target Movement of Crop Protect Direct Sulfen 4SC

Drift of dilute spray mixtures containing Crop Protect Direct Sulfen 4SC 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. Crop Protect Direct Sulfen 4SC can cause significant symptomology by drift on to sensitive crops and other plants. This symptomology may manifest initially as discrete, localized spots where contacted by Crop Protect Direct Sulfen 4SC 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 crops, defoliation of affected foliage could result. Failure to follow these guidelines and environmental prohibitions that then result in off-target movement or drift of Crop Protect Direct Sulfen 4SC on to unintended crops or plants, irrespective of severity, constitutes misapplication of this product. JABCO accepts no responsibility or liability for potential crop effects that may result from such misapplication of Crop Protect Direct Sulfen 4SC.

WEED RESISTANCE MANAGEMENT

For resistance management, **Crop Protect Direct Sulfen 4SC** is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to **Crop Protect Direct Sulfen 4SC** and other Group 14 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance management strategies should be followed.

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

- Rotate the use of **Crop Protect Direct Sulfen 4SC** or other 14 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include:
 - (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
 - (2) a spreading patch of non-controlled plants of a particular weed species;
 - (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact JABCO representative at 702 377 8877.

REPLANTING AND ROTATIONAL CROPS

When replanting, keep soil tillage to a minimum to preserve the herbicide barrier.

If planting of the crops listed does not produce a stand, only plant crops specified in this label or the tank mix partner may be planted. Where there is a tank mixture, the most restrictive label directions must be followed.

The planted area must not be retreated with **Crop Protect Direct Sulfen 45C** or any other product containing sulfentrazone.

Do not plant crops in previously treated areas unless in full compliance with the Rotational Crop Restrictions below.

Refer to the table below for the minimum interval from the time **Crop Protect Direct Sulfen 45C** was last applied until treated areas can be replanted with listed crops.

Crop	Minimum Rotational Interval (Months)
Barley, Rye, Triticale, Wheat	4
Corn (Field), Rice, Sorghum*	10
Alfalfa, Cereal Grains (Buckwheat, Oats, Pearl Millet, Proso Millet, Teosinte, Wild Rice), Sweet Potatoes	12
Corn (Pop & Sweet), Cotton	18
Canola	24
Sugar Beets	36
Asparagus, Berries, Brassica (head & stem) (Broccoli & Cabbage), Brassica (leafy vegetables), Citrus, Cowpea (succulent – TN only), Dry Shell Peas and Beans, Flax, Fruiting Vegetables (except cucurbits), Okra, Grapes, Horseradish, Lima Beans (succulent – TN only), Melons, Mint, Peanuts, Potato, Rhubarb, Soybean, Strawberry, Succulent Peas, Sugarcane, Sunflower Subgroup 20B, Tobacco, Tree nuts, Turf, Turnips, Wheat (spring-Pacific Northwest states ID, OR, WA only)	Anytime
<p>*18-month minimum rotation interval for sorghum where use rates are greater than 8 oz. of Crop Protect Direct Sulfen 45C per acre.</p> <ul style="list-style-type: none"> Certain crops have a rotational interval of longer than 12 months due to sensitivity and risk of crop injury. Carry out a representative bioassay of the target area on the rotational crop in order to assess the crop's sensitivity to applications of Crop Protect Direct Sulfen 45C. For all crops not listed in the table above, there must be a minimum rotational interval of 12 months. When this product is tank mixed with another product(s), read and follow the directions for all tank mix partners. The most restrictive directions must apply, including directions for re-cropping. 	

When applied in accordance with label directions (alone or in tank mixture), **Crop Protect Direct Sulfen 45C** will control the following weed species (refer to crop specific directions for additional information):

SCIENTIFIC NAME	COMMON NAME
<i>Amaranthus lividus</i>	Amaranth, Livid
<i>Amaranthus palmeri</i>	Amaranth, Palmer
<i>Amaranthus Powellii</i>	Amaranth, Powell
<i>Amaranthus spinosus</i>	Amaranth, Spiny
<i>Amaranthus dubius</i>	Amaranth, Spleen
<i>Anoda cristata</i>	Anoda, Spurred
<i>Echinochloa crus-galli</i>	Barnyardgrass, Common
<i>Galium aparine</i>	Bedstraw, Catchweed
<i>Convolvulus arvensis</i>	Bindweed, Field
<i>Poa annua</i>	Bluegrass, Annual
<i>Bromus</i> spp.	Brome grass species
<i>Medicago polymorpha</i>	Burclover, California
<i>Mollugo verticillata</i>	Carpetweed
<i>Bromus tectorum</i>	Cheatgrass
<i>Malva</i> spp.	Cheeseweed species
<i>Stellaria media</i>	Chickweed, Common
<i>Trifolium</i> spp.	Clover species
<i>Acalypha ostryifolia</i>	Copperleaf, Hophornbeam
<i>Acalypha virginica</i>	Copperleaf, Virginia
<i>Digitaria sanguinalis</i>	Crabgrass, Large
<i>Digitaria ischaemum</i>	Crabgrass, Smooth
<i>Digitaria ciliaris</i>	Crabgrass, Southern
<i>Croton glandulosus</i>	Croton, Tropic
<i>Verbesina encelioides</i>	Crownbeard, Golden
<i>Eriochloa villosa</i>	Cupgrass, Woolly
<i>Cyperus compressus</i>	Cyperus, Hedgehog
<i>Eclipta alba</i>	Daisy, American
<i>Proboscidea Louisiana</i>	Devils Claw
<i>Rumex crispus</i>	Dock, Curly
<i>Eclipta prostrata</i>	Eclipta

SCIENTIFIC NAME	COMMON NAME
<i>Oenothera laciniata</i>	Evening Primrose, Cutleaf
<i>Fetuca rubra</i>	Fescue, Red
<i>Amsinckia</i> spp.	Fiddleneck species
<i>Erodium botrys</i>	Filaree, Broadleaf
<i>Erodium cicutarium</i>	Filaree, Redstem
<i>Erodium moschatum</i>	Filaree, Whitestem
<i>Conyza bonariensis</i>	Fleabane, Hairy
<i>Descurainia Sophia</i>	Flixweed
<i>Setaria verticillata</i>	Foxtail, Bristly
<i>Setaria faberi</i>	Foxtail, Giant
<i>Setaria viridis</i>	Foxtail, Green
<i>Setaria glauca</i>	Foxtail, Yellow
<i>Galinsoga ciliata</i>	Galinsoga, Hairy
<i>Eleusine indica</i>	Goosegrass
<i>Chenopodium murale</i>	Goosefoot, Nettleleaf
<i>Physalis heterophylla</i>	Groundcherry, Clammy (Seedling)
<i>Physalis angulata</i>	Groundcherry, Cutleaf
<i>Senecio vulgaris</i>	Groundsel, Common
<i>Lamium amplexicaule</i>	Henbit
<i>Conyza Canadensis</i>	Horseweed (Marestail)
<i>Datura stramonium</i>	Jimsonweed
<i>Sorghum halepense</i>	Johnsongrass
<i>Echinochloa colona</i>	Junglerice
<i>Polygonum arenastrum</i>	Knotweed, Common
<i>Kochia scoparia</i>	Kochia (ALS- and Triazine-Resistant)
<i>Kyllinga brevifolia</i>	Kyllinga, Green
<i>Kyllinga gracillima</i>	Kyllinga, False Green
<i>Polygonum persicaria</i>	Ladysthumb
<i>Chenopodium album</i>	Lambsquarters, Common
<i>Montia perfoliata</i>	Lettuce, Miners
<i>Eragrostis</i> spp.	Lovegrass species
<i>Malva neglecta</i> wall R.	Mallow, Common
<i>Malva parviflora</i>	Mallow, Little
<i>Anthemis cotula</i> L.	Mayweed, Chamomile
<i>Ampelamus albidus</i>	Milkweed, Honeyvine
<i>Ipomoea hederacea integruscula</i>	Morningglory, Entireleaf
<i>Ipomoea hederacea</i> var. <i>hederacea</i>	Morningglory, Ivyleaf
<i>Ipomoea wrightii</i>	Morningglory, Palmleaf
<i>Ipomoea turbinata</i>	Morningglory, Purple
<i>Ipomoea coccinea</i> L.	Morningglory, Red
<i>Ipomoea coccinea</i>	Morningglory, Scarlet
<i>Jacquemontia tamnifolia</i>	Morningglory, Smallflower
<i>Ipomoea purpurea</i>	Morningglory, Tall
<i>Eremocarpus setigerus</i>	Mullein, Turkey
<i>Brassica</i> spp.	Mustard species
<i>Sisymbrium altissimum</i>	Mustard, Tumble
<i>Urtica urens</i>	Nettle, Burning
<i>Solanum nigrum</i>	Nightshade, Black
<i>Solanum ptycanthum</i>	Nightshade, Eastern Black
<i>Cyperus rotundus</i>	Nutsedge, Purple
<i>Cyperus esculentus</i>	Nutsedge, Yellow
<i>Panicum dichotomiflorum</i>	Panicum, Fall
<i>Dactylis glomerata</i>	Orchardgrass
<i>Panicum dichotomiflorum</i>	Panicum, Fall
<i>Amaranthus blitoides</i>	Pigweed, Prostrate
<i>Amaranthus retroflexus</i>	Pigweed, Redroot
<i>Amaranthus hybridus</i>	Pigweed, Smooth
<i>Amaranthus albus</i>	Pigweed, Tumble
<i>Chamomilla suaveolens</i>	Pineapple Weed
<i>Plantago rugelii</i> Decne	Plantain, Blackseed
<i>Plantago lanceolata</i>	Plantain, Narrow-leaved
<i>Diodia feres</i>	Poorjoe
<i>Porophyllum ruderae</i>	Porophyllum
<i>Euphorbia heterophylla</i>	Poinsettia, Wild
<i>Tribulus terrestris</i>	Puncturevine
<i>Portulaca oleracea</i>	Purslane, Common

SCIENTIFIC NAME	COMMON NAME
<i>Richardia scabra</i>	Pusley, Florida
<i>Raphanus raphanistrum</i>	Radish, Wild
<i>Calandrinia ciliata</i>	Redmaids
<i>Melochia corchorifolia</i>	Redweed
<i>Sisymbrium irio</i>	Rocket, London
<i>Lolium multiflorum</i>	Ryegrass, Italian
<i>Cenchrus spinifex</i>	Sandbur
<i>Cyperus</i> spp.	Sedge, Annual
<i>Cyperus retrorsus</i>	Sedge, Cylindrical
<i>Cyperus globulosus</i>	Sedge, Globe
<i>Cyperus surinamensis</i>	Sedge, Surinam
<i>Cyperus polystachyos</i>	Sedge, Texas
<i>Cassia occidentalis</i>	Senna, Coffee
<i>Capsella bursa-pastoris</i>	Shepherd's Purse
<i>Sida spinosa</i>	Sida, Prickly
<i>Sida acuta</i>	Sida, Southern
<i>Brachiaria platyphylla</i>	Signalgrass, Broadleaf
<i>Polygonum pensylvanicum</i>	Smartweed, Pennsylvania
<i>Cucumis melo</i>	Smellmelon
<i>Sonchus</i> spp.	Sowthistle species
<i>Leptochloa filiformis</i>	Sprangletop, Red
<i>Chamaesyce maculate</i>	Spurge, Spotted
<i>Acanthospermum hispidum</i>	Starbur, Bristly
<i>Eragrostis cilianensis</i>	Stinkgrass
<i>Linaria vulgaris</i>	Toadflax, Yellow
<i>Emilio sonchifolia</i>	Tasselflower, Red
<i>Salsola kali</i>	Thistle, Russian
<i>Amaranthus rudis</i>	Waterhemp, Common
<i>Amaranthus tuberculatus</i>	Waterhemp, Tall
<i>Ludwigia decurrens</i>	Waterprimrose, Winged
<i>Epilobium brachycarpum</i>	Willowleaf, Panicle-leaf
<i>Panicum capillare</i>	Witchgrass

CROP USE DIRECTIONS

ASPARAGUS

Application Timing

- Apply in the spring before crop and weeds emerge.
- Apply to crowns that have completed one full year growing season, and are healthy and vigorous.

Application Rates

Coarse Textured Soils:

- <1.5% Organic Matter: 4.5 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.8 - 8.0 fl. oz./acre
- >3.0% Organic Matter: 8.0 - 10.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 6.0 - 8.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 8.0 - 10.0 fl. oz./acre
- >3.0% Organic Matter: 10.1 - 12.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 8.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 10.0 fl. oz./acre
- >3.0% Organic Matter: 12.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties or cultivars of asparagus.

Application Instructions

- Apply **Crop Protect Direct Sulfen 45C** in 10 to 40 gallons of spray solution per acre.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).

Application Restrictions

- Do not apply to frozen soils or existing snow cover to prevent this product to runoff from rain or snowmelt that may occur following application.
- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not make more than one application in a 12-month period (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Pre-Harvest Interval (PHI): 14 Days
- Do not use on soils classified as "sand" (with <1% organic matter).

Tank Mixes

Tank mix **Crop Protect Direct Sulfen 4SC** with pesticides registered for use on asparagus. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

BERRIES

(Crop Group 13-07)

Aronia berry, Bayberry, Bearberry, Bilberry, Blackberry (including Andean Blackberry, Arctic Blackberry, Bingleberry, Black Satin Berry, Boysenberry, Brombeere, California Blackberry, Chesterberry, Cherokee Blackberry, Cheyenne Blackberry, Common Blackberry, Coryberry, Darrowberry, Dewberry, Dirksen Thornless Berry, Evergreen Blackberry, Himalayaberry, Hullberry, Lavacaberry, Loganberry, Lowberry, Lucretiaberry, Mammoth Blackberry, Marionberry, Mora, Mures Deronce, Nectarberry, Northern dewberry, Olallieberry, Oregon Evergreen Berry, Phenomenal Berry, Range Berry, Ravenberry, Rosberry, Shawnee Blackberry, Southern Dewberry, Tayberry, Youngberry, Zarzamora, and cultivars and hybrids of these), Blueberry (Highbush & Lowbush), Buffalo Currant, Buffaloberry, Che, Chilean, Guava, Chokeycherry, Cloudberry, Cranberry, Cranberry (Highbush), Currant, Black Currant, Red, Elderberry, European Barberry, Gooseberry, Honeysuckle, edible Huckleberry, Jostaberry, Juneberry (Saskatoon berry), Kiwifruit, Funny Kiwifruit, Hardy Lingonberry, Maypop, Mountain Pepper Berries, Mulberry, Muntries, Native Current, Partridgeberry, Phalsa, Pin Cherry, Raspberry, Black and Red Berry, Salal, Schisandra Berry, Sea Buckthorn, Serviceberry, Wild Raspberry, and Cultivars, varieties and/or hybrids of these

Application Timing

- Make a broadcast soil application when weeds are not present and/or a post-emergence herbicide has been tank mixed with **Crop Protect Direct Sulfen 4SC**.
- Make applications to crops that have been established for one full growing season and are healthy and vigorous.
- Apply **Crop Protect Direct Sulfen 4SC** when soil is moist and application will be followed by ½" rainfall or irrigation within two weeks after application.
- Time applications to take advantage of normal rainfall and cool temperatures, especially if using drip or micro sprinkler irrigation is used which may not provide uniform incorporation into the soil.

Application Instructions

- Apply with ground application equipment only.
- Make a uniform broadcast soil application to orchard and vineyard floors, to berry beds, and furrows.
- Apply in a minimum of 10 gallons of spray solution per acre. The spray solution pH should be 5.0-9.0; nozzles must meet manufacturer's spray volume and pressure specifications for pre-emergence and post-emergence herbicide applications.
- Wrap the trunks of green bark, young vines, and trees with a non-porous wrap, grow tubes, or wax containers to avoid **Crop Protect Direct Sulfen 4SC** contact with green tissue.
- Apply as a uniform band application directed to the base of the tree trunk in trees and vines and to the base of the berry and beds in berries.
- **Broadcast Applications:** Make a single application of 4-12 fl. oz./acre (0.125-0.375 lb. a.i./acre).
- **Banded Applications:** Refer to the following chart for the appropriate rate and volume of **Crop Protect Direct Sulfen 4SC** to be applied. **Crop Protect Direct Sulfen 4SC** can be applied twice in one year. For band treatments, apply the broadcast rate and volume per acre. To determine these:

$$\text{Band Rate} = \frac{\text{Band Width (Ft.)}}{\text{Row Within Feet}} \times \text{Broadcast Rate/Acre}$$

$$\text{Band Volume} = \text{Band Width Feet} \times \text{Broadcast Volume/Acre}$$

Application Restrictions

- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not apply to frozen soils or existing snow cover to prevent this product to runoff from rain or snowmelt that may occur following application.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not apply **Crop Protect Direct Sulfen 4SC** to green tissue, crop foliage, or fruit.
- Do not make aerial applications.
- Do not apply after petal fall unless using a hooded or shielded sprayer to avoid contact with foliage and fruit.
- Do not apply when heavy crop trash is present (leaves/branches/weed residue). Clean the area to be treated prior to applying **Crop Protect Direct Sulfen 4SC**.
- Do not apply to powdery soils or soils where windy conditions may displace soil unless soil can be irrigated immediately after treatment.
- Pre-Harvest Interval (PHI): 3 days
- If two banded treatments are made, wait a minimum of 60 days between applications. Do not exceed the annual maximum use rate.

Tank Mixes

Crop Protect Direct Sulfen 4SC can be tank mixed with other pre-emergence and post-emergence burndown herbicides labeled for use on listed crops. Refer to the tank mix partner label for the proper use directions and restrictions. Use the most restrictive label and precautions of the tank mix product(s). Do not tank mix sulfentrazone-containing products with flumioxazin.

Replanting in New or Established Orchards and Vineyards

Wait at least 30 days after applying **Crop Protect Direct Sulfen 4SC** before replanting trees and vines in newly planted and established orchards and vineyards. Use untreated soil when replanting trees and vines.

Control/Suppression of Sedge/Nutsedge

- Make a post-emergence application of **Crop Protect Direct Sulfen 4SC** at 12 fl. oz./acre (0.375 lb. a.i./acre).
- Use a 25% v/v non-ionic surfactant (NIS).

- Post-emergence applications may be most effective since **Crop Protect Direct Sulfen 45C** is absorbed into the plant through the foliage and roots.
- Pre-emergence applications of **Crop Protect Direct Sulfen 45C** will suppress sedges, but will not provide complete control.
- For optimal control of purple nutsedge, make split applications of **Crop Protect Direct Sulfen 45C**. Make an initial application of 4-6 fl. oz./acre followed by a 2nd application to actively growing purple nutsedge. DO NOT exceed the maximum application rate of 12 fl. oz./acre (0.375 lb. a.i./acre). Optimal control may not occur until the 2nd year after the initial application of **Crop Protect Direct Sulfen 45C**.

BRASSICA (HEAD AND STEM)**(Broccoli, Chinese broccoli, Brussels sprouts, Chinese (napa) Cabbage, Chinese mustard, Cauliflower, Cavalo broccoli, Kohlrabi)****Application Timing**

- Apply pre-plant to stubble or soil surface in the fall.
- Apply early pre-plant, pre-plant incorporated, pre-emergence in the spring up to 72 hours before transplanting.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 3.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 12.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 12.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties or cultivars of head and stem brassica.

Application Instructions

- Unless applying pre-plant incorporated, do not incorporate **Crop Protect Direct Sulfen 45C** into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur.
- If applying pre-plant incorporated in the spring, mix thoroughly or shallowly incorporate **Crop Protect Direct Sulfen 45C** into the soil prior to transplanting.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).

Application Restrictions

- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not incorporate into the soil deeper than 2".
- Do not apply **Crop Protect Direct Sulfen 45C** to frozen or snow-covered soil.
- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not use on soils classified as "sand" (with <1% organic matter).

Tank Mixes

Crop Protect Direct Sulfen 45C can be split-applied or mixed with burndown herbicides or residual soil herbicides registered for use on head and stem brassica. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

BRASSICA, LEAFY GREENS**(Broccoli raab, Chinese (bok choy) cabbage, Collards, Kale, Mizuna, Mustard greens, Mustard spinach, Rape greens)****Application Timing**

- Apply pre-plant to stubble or soil surface in the fall.
- Early pre-plant, pre-plant incorporated, pre-emergence in the spring up to 72 hours before transplanting.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 3.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 6.4 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 6.4 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 6.4 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 6.4 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 6.4 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties or cultivars of brassica, leafy greens.

Application Instructions

- Unless applying pre-plant incorporated, do not incorporate **Crop Protect Direct Sulfen 45C** into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur.
- If applying pre-plant incorporated in the spring, mix thoroughly or shallowly incorporate **Crop Protect Direct Sulfen 45C** into the soil prior to transplanting.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).

Application Restrictions

- Do not apply more than 6.4 fl. oz. product per acre (0.2 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 3.2 fl. oz./acre.
- Do not incorporate into the soil deeper than 2".
- Do not apply **Crop Protect Direct Sulfen 45C** to frozen or snow-covered soil.
- Do not apply more than 6.4 fl. oz. product per acre (0.2 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not use on soils classified as "sand" (with <1% organic matter).

Tank Mixes

Crop Protect Direct Sulfen 45C can be split-applied or mixed with burndown herbicides or residual soil herbicides registered for use on brassica, leafy greens. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

CABBAGE**(Transplanted Only)****Application Timing**

- Apply pre-plant to stubble or soil surface in the fall or in the spring 60 days prior to planting or up to 72 hours after transplanting.
- If applying pre-emergence before transplant, make broadcast or banded applications.
- Early pre-plant applications can only be made in the states of CO, ID, MI, MN, MT, NE, ND, OR, SD, WA, WI, and WY.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 3.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 12.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 12.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties or cultivars of cabbage.

Application Instructions

- Unless applying pre-plant incorporated, do not incorporate **Crop Protect Direct Sulfen 45C** into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur.
- If applying pre-plant incorporated in the spring, mix thoroughly or shallowly incorporate **Crop Protect Direct Sulfen 45C** into the soil prior to transplanting.
- If applying pre-emergence, applications before transplant can be broadcast or banded.
- Pre-emergence applications up to 72 hours after transplant should be a banded treatment in the row middles.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).

Application Restrictions

- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not incorporate into the soil deeper than 2".
- Do not apply **Crop Protect Direct Sulfen 45C** to frozen or snow-covered soil.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not use on soils classified as "sand" (with <1% organic matter).

Tank Mixes

Crop Protect Direct Sulfen 45C can be split-applied or mixed with burndown herbicides or soil-applied herbicides registered for use on cabbage. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

CITRUS**Crop Group 10**

Australian desert lime, Australian finger lime, Australian round lime, Brown River finger lime, Calamondin, Citron, Citrus hybrids, Grapefruit, Japanese summer Grapefruit, Kumquat, Lemon, Lime, Mediterranean Mandarin, Mount White lime, New Guinea Wild Lime, Orange (Sour, Sweet), Pummelo, Russell River Lime, Satsuma Mandarin, Sweet Lime, Tachibana Orange, Tahiti Lime, Tangelo, Tangerine (Mandarin), Tangor, Trifoliate Orange, Uniq Fruit, and cultivars varieties of citrus

Application Timing

- Make a broadcast soil application when weeds are not present and/or a post-emergence herbicide has been tank mixed with **Crop Protect Direct Sulfen 4SC**.
- Make applications to crops that have been established for one full growing season and are healthy and vigorous.
- Apply **Crop Protect Direct Sulfen 4SC** when soil is moist and application will be followed by ½" rainfall or irrigation within two weeks after application.
- Time applications to take advantage of normal rainfall and cool temperatures, especially if using drip or micro sprinkler irrigation is used which may not provide uniform incorporation into the soil.

Application Instructions

- Apply with ground application equipment only.
- Make a uniform broadcast soil application to orchard and vineyard floors, to berry beds, and furrows.
- Apply in a minimum of 10 gallons of spray solution per acre. The spray solution pH should be 5.0-9.0; nozzles must meet manufacturer's spray volume and pressure specifications for pre-emergence and post-emergence herbicide applications.
- Wrap the trunks of green bark, young vines, and trees with a non-porous wrap, grow tubes, or wax containers to avoid **Crop Protect Direct Sulfen 4SC** contact with green tissue.
- Apply as a uniform band application directed to the base of the tree trunk in trees and vines and to the base of the berry and beds in berries.
- **Broadcast Applications:** Make a single application of 4-12 fl. oz./acre (0.125-0.375 lb. a.i./acre).
- **Banded Applications:** Refer to the following chart for the appropriate rate and volume of **Crop Protect Direct Sulfen 4SC** to be applied. **Crop Protect Direct Sulfen 4SC** can be applied twice in one year. For band treatments, apply the broadcast rate and volume per acre. To determine these:

$$\text{Band rate} = \frac{\text{Band Width (Ft.)}}{\text{Row Within Feet}} \times \text{Broadcast Rate/Acre}$$

$$\text{Band Volume} = \text{Band Width Feet} \times \text{Broadcast Volume/Acre}$$

Application Restrictions

- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not apply **Crop Protect Direct Sulfen 4SC** to green tissue, crop foliage, or fruit.
- Do not make aerial applications.
- Do not apply after petal fall unless using a hooded or shielded sprayer to avoid contact with foliage and fruit.
- Do not apply when heavy crop trash is present (leaves/branches/weed residue). Clean the area to be treated prior to applying **Crop Protect Direct Sulfen 4SC**.
- Do not apply to powdery soils or soils where windy conditions may displace soil unless soil can be irrigated immediately after treatment.
- Pre-Harvest Interval (PHI): 3 days
- If banded treatments are made, wait a minimum of 60 days between applications. Do not exceed the annual maximum use rate.

Tank Mixes

Crop Protect Direct Sulfen 4SC can be tank mixed with other pre-emergence and post-emergence burndown herbicides labeled for use on listed crops. Refer to the tank mix partner label for the proper use directions and restrictions. Use the most restrictive label and precautions of the tank mix product(s). Do not tank mix sulfentrazone-containing products with flumioxazin.

Replanting in New or Established Orchards and Vineyards

Wait at least 30 days after applying **Crop Protect Direct Sulfen 4SC** before replanting trees and vines in newly planted and established orchards and vineyards. Use untreated soil when replanting trees and vines.

Control/Suppression of Sedge/Nutsedge

- Make a post-emergence application of **Crop Protect Direct Sulfen 4SC** at 12 fl. oz./acre (0.375 lb. a.i./acre).
- Use a 25% v/v non-ionic surfactant (NIS).
- Post-emergence applications may be most effective since **Crop Protect Direct Sulfen 4SC** is absorbed into the plant through the foliage and roots.
- Pre-emergence applications of **Crop Protect Direct Sulfen 4SC** will suppress sedges, but will not provide complete control.
- For optimal control of purple nutsedge, make split applications of **Crop Protect Direct Sulfen 4SC**. Make an initial application of 4-6 fl. oz./acre followed by a 2nd application to actively growing purple nutsedge. DO NOT exceed the maximum application rate of 12 fl. oz./acre (0.375 lb. a.i./acre). Optimal control may not occur until the 2nd year after the initial application of **Crop Protect Direct Sulfen 4SC**.

CORN (FIELD, SEED, POP)**(For Use Only with GMO Varieties Tolerant to PPO Herbicides)**

Application Timing <ul style="list-style-type: none"> • Apply pre-plant to stubble or soil surface in the fall before spring planting. • Apply early pre-plant, pre-plant incorporated, pre-emergence in the spring 45 days prior to planting or up to 3 days after planting if seed furrow is closed and seedlings have not broken soil surface. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> • Up to 3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre • >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre • >3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.75 - 5.25 fl. oz./acre • 1.5%-3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre • >3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	Important <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 45C with specific local varieties or cultivars of corn. • Moisture (rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed.
Application Instructions <ul style="list-style-type: none"> • Early pre-plant, pre-plant incorporated, post-emergence in the spring after planting: broadcast or banded soil application. • Crop Protect Direct Sulfen 45C can be applied in conventional, conservation, reduced, or no tillage cropping systems. • For applications in the fall or up to 14 days prior to planting in the spring, use the mid to higher rate within the specified rate range for your soil type, because of the extended time period between application and planting. • If applying pre-plant incorporated in the spring, mix thoroughly or shallowly incorporate Crop Protect Direct Sulfen 45C into the soil using a field cultivator, disk harrower, field finisher, or other correctly adjusted incorporation tool. • Make a split application or sequential application if treating difficult to control weeds and/or late emerging weeds. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). • Minimize soil disturbance when planting into soil treated with Crop Protect Direct Sulfen 45C. 	
Application Restrictions <ul style="list-style-type: none"> • Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre. • Do not disturb the soil surface after application. • Do not apply to frozen or snow-covered soil. • Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 45C is first applied). • Do not use on soils classified as "sand" (with <1% organic matter). • Do not incorporate into the soil deeper than 2". 	
Tank Mixes Crop Protect Direct Sulfen 45C can be mixed with burndown herbicides or residual soil herbicides to control emerged weeds. Crop Protect Direct Sulfen 45C can be mixed with insecticides to control cutworms, armyworms, or other insect pests. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s). Crop Protect Direct Sulfen 45C can be mixed with insecticides that control cutworms, armyworms, and other insect pests.	

BEANS AND PEAS (DRY SHELLED)

Dried cultivars of bean (*Lupinus*); bean (*Phaseolus*) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); bean (*Vigna*) (includes adzuki bean, blackeye pea, catjang, cowpea, crowder pea, moth bean, lentil, mung bean, rice bean, southern pea, urd bean); broad bean (dry); chickpea; guar; lablab bean; pea (*Pisum*) (includes field pea), and pigeon pea

Application Timing <ul style="list-style-type: none"> • Apply to stubble or soil surface. • Make early pre-plant applications in the fall before the spring growing season in the states of CO, ID, KS, MI, MN, MT, NE, ND, OR, SD, WA, WI, and WY. • Apply in the spring 60 days prior to planting or up to 3 days after planting if seed furrow is completely closed, and if seedlings have not broken the soil furrow. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 2.25 - 3.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre • >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre • >3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre 	Important <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 45C with specific local varieties of dry beans and peas.

Fine Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre • 1.5%-3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre • >3.0% Organic Matter: 5.25 - 8.0 fl. oz./acre See Soil Categories chart for additional information.	<ul style="list-style-type: none"> • Planting in less than 1" in depth or inadequate seed furrow closure or poor growing conditions (disease, low temperature, soil compaction, excessive moisture) can cause crop injury. • Moisture (rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed.
Application Instructions <ul style="list-style-type: none"> • When applying pre-plant incorporated in the fall, do not incorporate Crop Protect Direct Sulfen 45C into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. • If applying pre-plant incorporated in the spring earlier than 3 weeks prior to planting, use the higher rate within the specified rate range listed in the Application Rates section for appropriate soil and organic matter type. • If applying Crop Protect Direct Sulfen 45C pre-plant incorporated in the spring prior to planting reduced and conventional tillage dry beans and dry peas, mix thoroughly or shallowly incorporate Crop Protect Direct Sulfen 45C into the soil. • Wait a minimum of 7 days after application to plant in coarse textured soils with <1.5% organic matter. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). • Reduce rate of Crop Protect Direct Sulfen 45C on coarse textured soil with organic matter less than 1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings. 	
Application Restrictions <ul style="list-style-type: none"> • Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.0 fl. oz./acre. • Do not incorporate into the soil deeper than 2". • Do not apply Crop Protect Direct Sulfen 45C to frozen or snow-covered soil. • Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 45C is first applied). • Do not use on soils classified as "sand" (with <1% organic matter). • Do not apply Crop Protect Direct Sulfen 45C if seedlings are close to soil surface or crop has emerged. 	
Tank Mixes Crop Protect Direct Sulfen 45C can be split-applied or mixed with burndown herbicides or soil-applied herbicides registered for use on dry beans and peas. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).	

FALLOW OR POST-HARVEST BURNDOWN

Application Timing <ul style="list-style-type: none"> • Apply post-harvest in the fall to stubble or soil surface. • Apply in the spring pre-emergence as a fallow treatment. • Fall application can be made in the states of MN, ND, SD, MT, CO, NE, WY, ID, OR, WI, or MI. • Spring application can be made to existing fallow fields of asparagus, cabbage, corn, dry shell peas and beans, horseradish, limas, mint, peanuts, potatoes, soybeans, sugarcane, sunflowers, or tobacco. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 3.75 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.75 - 5.25 fl. oz./acre • >3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre • >3.0% Organic Matter: 4.5 - 8.0 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.75 - 5.25 fl. oz./acre • 1.5%-3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre • >3.0% Organic Matter: 5.25 - 8.0 fl. oz./acre See Soil Categories chart for additional information.	Important <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Follow rotational crop guidelines listed on this table when planting crops in the next season. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 45C with specific local varieties of given crop species. • Moisture (rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed.
Application Instructions <ul style="list-style-type: none"> • Apply Crop Protect Direct Sulfen 45C to stubble or soil surface in the fall, or as a fallow treatment in the spring. • If weed size is such that the weeds interfere with Crop Protect Direct Sulfen 45C getting to the soil surface, a separate burndown herbicide should be used prior to application of Crop Protect Direct Sulfen 45C. • Use higher application rates within the specified rate range, or more than one application of a burndown herbicide, if necessary, to remove emerged weeds. • If making aerial application, use higher listed spray volumes of burndown herbicide to control dense weeds or canopy. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). 	
Application Restrictions <ul style="list-style-type: none"> • Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.0 fl. oz./acre. • Do not incorporate into the soil. • Do not disturb the soil surface once Crop Protect Direct Sulfen 45C has been applied. 	

- Do not apply **Crop Protect Direct Sulfen 4SC** to frozen or snow-covered soil.
- Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not use on soils classified as “sand” (with <1% organic matter).

Tank Mixes

Crop Protect Direct Sulfen 4SC can be mixed with burndown herbicides or residual soil herbicides to control emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

FLAX**Application Timing**

- Apply **Crop Protect Direct Sulfen 4SC** as a pre-emergence treatment prior to planting up to just before seedling emergence.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 3.0-3.75 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0-4.5 fl. oz./acre
- >3.0% Organic Matter: 3.75-6.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.75-6.0 fl. oz./acre
- >3.0% Organic Matter: 4.5-6.75 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.75 - 5.25 fl. oz./acre
- 1.5%-3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 4SC** with specific local varieties or cultivars of flax.
- Planting less than 1" in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Extended periods of dry weather can reduce weed control.

Application Instructions

- Apply **Crop Protect Direct Sulfen 4SC** as a pre-emergent treatment prior to planting up just before seedling emergence.
- **Crop Protect Direct Sulfen 4SC** can be followed with a post-emergence flax herbicide.
- Wait a minimum of 7 days after application to plant in coarse textured soils with <1.5% organic matter.
- Eliminate use or reduce rate of **Crop Protect Direct Sulfen 4SC** to 3.0 fl. oz./acre (0.94 lb. a.i./acre) on coarse textured soil with organic matter <1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize crop injury.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).

Application Restrictions

- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not apply **Crop Protect Direct Sulfen 4SC** after flax seedlings are close to soil surface or have emerged.
- Do not incorporate into the soil any deeper than 2".
- Do not apply **Crop Protect Direct Sulfen 4SC** to frozen or snow-covered soil.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not use on soils classified as “sand” (with <1% organic matter).

Tank Mixes

Crop Protect Direct Sulfen 4SC can be applied alone or in combination with other herbicides labeled for use on flax. Tank mix **Crop Protect Direct Sulfen 4SC** with burndown herbicides to control emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

FRUITING VEGETABLES (except Cucurbits) and OKRA

Eggplant, groundcherry (*Physalis* spp.), pepino, pepper (includes bell pepper, chili pepper, cooking pepper, okra, pimento, sweet pepper), tomatillo, tomato

Application Timing

- Make applications before transplanting.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 3.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 12.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 12.0 fl. oz./acre

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 4SC** with specific local varieties or cultivars of fruiting vegetables.

See Soil Categories chart for additional information.

Application Instructions

- Apply **Crop Protect Direct Sulfen 45C** as a pre-emergence treatment (broadcast or banded) to fruiting vegetables.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).

Application Restrictions

- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not apply **Crop Protect Direct Sulfen 45C** to frozen or snow-covered soil.
- Do not use on soils that contain less than 1% organic matter (soils classified as "sand").

GRAPES**(Raisin, table and juice, wine, Amur river grape)****Application Timing**

- Make a broadcast soil application when weeds are not present and/or a post-emergence herbicide has been tank mixed with **Crop Protect Direct Sulfen 45C**.
- Make applications to crops that have been established for one full growing season and are healthy and vigorous.
- Apply **Crop Protect Direct Sulfen 45C** when soil is moist and application will be followed by ½" rainfall or irrigation within two weeks after application.
- Time applications to take advantage of normal rainfall and cool temperatures, especially if using drip or micro sprinkler irrigation is used which may not provide uniform incorporation into the soil.

Application Instructions

- Apply with ground application equipment only.
- Make a uniform broadcast soil application to orchard and vineyard floors, to berry beds, and furrows.
- Apply in a minimum of 10 gallons of spray solution per acre. The spray solution pH should be 5.0-9.0; nozzles must meet manufacturer's spray volume and pressure specifications for pre-emergence and post-emergence herbicide applications.
- Wrap the trunks of green bark, young vines, and trees with a non-porous wrap, grow tubes, or wax containers to avoid **Crop Protect Direct Sulfen 45C** contact with green tissue.
- Apply as a uniform band application directed to the base of the tree trunk in trees and vines and to the base of the berry and beds in berries.
- **Broadcast Applications:** Make a single application of 4-12 fl. oz./acre (0.125-0.375 lb. a.i./acre).
- **Banded Applications:** Refer to the following chart for the appropriate rate and volume of **Crop Protect Direct Sulfen 45C** to be applied. **Crop Protect Direct Sulfen 45C** can be applied twice in one year. For band treatments, apply the broadcast rate and volume per acre. To determine these:

$$\text{Band rate} = \frac{\text{Band Width (Ft.)}}{\text{Row Within Feet}} \times \text{Broadcast Rate/Acre}$$

$$\text{Band Volume} = \text{Band Width Feet} \times \text{Broadcast Volume/Acre}$$

Application Restrictions

- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not apply **Crop Protect Direct Sulfen 45C** to green tissue, crop foliage, or fruit.
- Do not make aerial applications.
- Do not apply after petal fall unless using a hooded or shielded sprayer to avoid contact with foliage and fruit.
- Do not apply when heavy crop trash is present (leaves/branches/weed residue). Clean the area to be treated prior to applying **Crop Protect Direct Sulfen 45C**.
- Do not apply to powdery soils or soils where windy conditions may displace soil unless soil can be irrigated immediately after treatment.
- Pre-Harvest Interval (PHI): 3 days
- If banded treatments are made, wait a minimum of 60 days between applications. Do not exceed the annual maximum use rate.

Tank Mixes

Crop Protect Direct Sulfen 45C can be tank mixed with other pre-emergence and post-emergence burndown herbicides labeled for use on listed crops. Refer to the tank mix partner label for the proper use directions and restrictions. Use the most restrictive label and precautions of the tank mix product(s). Do not tank mix sulfentrazone-containing products with flumioxazin.

Replanting in New or Established Orchards and Vineyards

Wait at least 30 days after applying **Crop Protect Direct Sulfen 45C** before replanting trees and vines in newly planted and established orchards and vineyards. Use untreated soil when replanting trees and vines.

Control/Suppression of Sedge/Nutsedge

- Make a post-emergence application of **Crop Protect Direct Sulfen 45C** at 12 fl. oz./acre (0.375 lb. a.i./acre).
- Use a 25% v/v non-ionic surfactant (NIS).
- Post-emergence applications may be most effective since **Crop Protect Direct Sulfen 45C** is absorbed into the plant through the foliage and roots.

- Pre-emergence applications of **Crop Protect Direct Sulfen 45C** will suppress sedges, but will not provide complete control.
- For optimal control of purple nutsedge, make split applications of **Crop Protect Direct Sulfen 45C**. Make an initial application of 4-6 fl. oz./acre followed by a 2nd application to actively growing purple nutsedge. DO NOT exceed the maximum application rate of 12 fl. oz./acre (0.375 lb. a.i./acre). Optimal control may not occur until the 2nd year after the initial application of **Crop Protect Direct Sulfen 45C**.

HORSERADISH**Application Timing**

- Apply pre-plant in the fall before the growing season.
- Apply in the spring early (pre-plant, pre-emergence, pre-plant incorporated).
- Early pre-plant applications can only be made in the states of CO, ID, MI, MN, MT, NE, ND, OR, SD, WA, WI, or WY.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 7.5 fl. oz./acre

Medium or Fine Textured Soils:

- <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties or cultivars of horseradish.
- Moisture (rain or snow) should occur after application to move the product into the soil.

Application Instructions

- Apply **Crop Protect Direct Sulfen 45C** to stubble or soil surface.
- If applying pre-plant in the spring, apply **Crop Protect Direct Sulfen 45C** 60 days prior to planting up to planting.
- If making pre-emergence applications before planting, and up to 5 days before crop emergence can be broadcast or banded.
- If applying after crop emergence, apply **Crop Protect Direct Sulfen 45C** to row middles as a banded treatment.
- Use higher rates within the specified rate range if soil is clay or has >1% organic matter.
- If applying pre-plant incorporated in the spring, prior to planting, mix thoroughly or shallowly incorporate **Crop Protect Direct Sulfen 45C** into the soil.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).

Application Restrictions

- Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.0 fl. oz./acre.
- Do not incorporate into the soil deeper than 2".
- Do not apply **Crop Protect Direct Sulfen 45C** to frozen or snow-covered soil.
- Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not use on soils classified as "sand" (with <1% organic matter).
- Do not apply **Crop Protect Direct Sulfen 45C** if seedlings are close to soil surface or have emerged (apply a banded treatment to row middles).

Tank Mixes

Crop Protect Direct Sulfen 45C can be split-applied or mixed with burndown herbicides, residual soil herbicides or other pesticides to control emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

**LIMA BEANS, SUCCULENT
(Tennessee Only)****Application Timing**

- Make pre-emergence applications before transplanting.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 3.75 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre
- >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.75 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 5.25 - 6.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties or cultivars of lima beans.
- Planting less than 1" in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Extended periods of dry weather can reduce weed control.

Application Instructions

- Apply **Crop Protect Direct Sulfen 45C** as a pre-emergence treatment.
- Apply **Crop Protect Direct Sulfen 45C** in at least 10 gallons of finished spray per acre.
- Apply with ground equipment.

- Wait a minimum of 7 days after application to plant in coarse soils with <1.5% organic matter.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).
- Reduce rate of **Crop Protect Direct Sulfen 45C** on coarse textured soil with organic matter less than 1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings.

Application Restrictions

- Do not apply more than 6 fl. oz. product per acre (0.1875 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 3.0 fl. oz./acre.
- Do not apply Crop Protect Direct Sulfen 45C to frozen or snow-covered soil.
- Do not use on soils classified as "sand" (with <1% organic matter).
- Do not apply more than 6.0 fl. oz. product per acre (0.1875 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not incorporate **Crop Protect Direct Sulfen 45C** into the soil.

MELONS**(Citron melon, muskmelon, watermelon)****Application Timing**

- Make pre-emergence applications 48 hours prior to planting up to just before seedling emergence.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 3.75 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre
- >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.75 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 5.25 - 6.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties or cultivars of melons.
- Planting less than 1" in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Extended periods of dry weather can reduce weed control.

Application Instructions

- Apply **Crop Protect Direct Sulfen 45C** as a pre-emergence treatment from 48 hours prior to planting up to just before seedling emergence.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).

Application Restrictions

- Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.0 fl. oz./acre.
- Do not apply Crop Protect Direct Sulfen 45C to frozen or snow-covered soil.
- Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not apply **Crop Protect Direct Sulfen 45C** if seedlings are close to the soil surface or have emerged.
- Do not use on soils classified as "sand" (with <1% organic matter).

Tank Mixes

Crop Protect Direct Sulfen 45C can be split-applied or mixed with burndown herbicides to control emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

MINT**Application Timing**

- Apply to established strands of dormant mint or newly planted mint in the fall or spring, prior to emergence of new growth.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 4.5 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre
- >3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 6.0 - 8.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre
- >3.0% Organic Matter: 10.1 - 12.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 8.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 10.1 fl. oz./acre

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties of mint.

<ul style="list-style-type: none"> • >3.0% Organic Matter: 12.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	
Application Instructions <ul style="list-style-type: none"> • Dormant Applications: Apply Crop Protect Direct Sulfen 4SC to established stands of mint in the spring after cultivation is complete, or in the fall after post-harvest cultivation and prior to new growth. Split applications can be made for pre-emergence control of winter and spring annual weeds. • New Planting Applications: Reduce the rate of application by 25% of the specified rate for newly established mint. Apply Crop Protect Direct Sulfen 4SC to both weeds and newly established mint. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). • Moisture (rain or overhead irrigation) is required to activate Crop Protect Direct Sulfen 4SC and move it into the soil. 	
Application Restrictions <ul style="list-style-type: none"> • Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre. • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. • Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). • Do not apply Crop Protect Direct Sulfen 4SC if mint has emerged. • Do not use on soils classified as "sand" (with <1% organic matter). • Do not apply to mint fields under stress from disease, culture, environment, or disease. 	
Tank Mixes Crop Protect Direct Sulfen 4SC can be mixed with burndown herbicides to control emerged weeds. Adding a surfactant to the tank mix will enhance weed control. Use the most restrictive label and precautions of the tank mix product(s).	

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

Crop Protect Direct Sulfen 4SC will control susceptible weeds, maintain bare ground and complete vegetation control, and provide residual control of germinating weeds in non-cropland areas. When applied as indicated on this label, the following weeds will be controlled with **Crop Protect Direct Sulfen 4SC**:

Beggarweed, Florida (<i>Desmodium tortuosum</i>) Carpetweed (<i>Mollugo verticillata</i>) Chickweed, common (<i>Stellaria media</i>) Copperleaf Hophornbeam (<i>Acalypha ostryifolia</i>) Crabgrass species (<i>Digitaria</i> spp.) Croton, tropic (<i>Cretan glandulosus</i>) Daisy, American (<i>Coreopsis grandiflora</i>) Dayflower, common (<i>Commelina communis</i>) Dayflower, Virginia (<i>Commelina virginica</i>) Dock, curly (<i>Rumex crispus</i>) Fixweed (<i>Descurainia sophia</i>) Galinsoga, hairy (<i>Galinsoga ciliata</i>) Groundcherry, clammy (seedling) (<i>Physalis heterophylla</i>) Groundcherry, cutleaf (<i>Physalis angulata</i>) Jimsonweed (<i>Datura stramonium</i>) Kochia (<i>Kochia scoparia</i>) ALS/Triazine-resistant Kochia (<i>Kochia scoparia</i>)	Lambsquarters, common (<i>Chenopodium album</i>) Lettuce, wild (<i>Lactuca virosa</i>) Mallow, common (<i>Malva neglecta</i>) Mexicanweed (<i>Caperonia castanifolia</i>) Milkweed, honeyvine (<i>Ampelamus albidus</i>) Morningglory species (<i>Ipomoea</i> spp.) Mustard species (<i>Brassica</i> spp.) Nightshade species (<i>Solanum</i> spp.) Nutsedge species (<i>Cyperus</i> spp.) Palmer amaranth (<i>Amaranthus palmeri</i>) Pigweed, redroot (<i>Amaranthus retroflexus</i>) Pigweed, smooth (<i>Amaranthus hybridus</i>) Texasweed (<i>Caperonia palustris</i>) Thistle, Russian (<i>Salsola iberica</i>) Waterhemp, common (<i>Amaranthus rudis</i>) Waterhemp, tall (<i>Amaranthus tuberculatus</i>)
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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 within the specified rate range:

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

Do not use on soils with less than 1% organic matter (sandy soils).

Tank Mixes

Tank mix **Crop Protect Direct Sulfen 4SC** with burndown herbicides (including 2,4-D, dicamba, diquat, glyphosate, glyphosate trimesium). Read

Restrictions

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

and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.

Adjuvants recommended for tank mix partner can be used.

- Do not graze or feed forage harvested from Crop Protect Direct Sulfen 4SC Herbicide treated areas.
- Do not apply to landscape ornamental plants or ornamental beds.
- Do not apply more than 12.0 fl oz/A (0.375 lb ai/A) in a single application.
- Do not apply more than three applications per year when using reduced application rate equal to or less than 4.0 fl oz/A of this product.
- Do not apply to frozen soils or existing snow cover to prevent **Crop Protect Direct Sulfen 4SC** Herbicide runoff from rain or snowmelt that may occur following application.

PEANUTS

(Southeastern United States Only: AL, GA, MS, NC, SC, VA)

Application Timing

- Make pre-plant incorporated applications to peanuts up to 14 days prior to planting or up to 12 hours after planting.

Application Rates

To control Amaranth (spleen), Copperleaf (hophornbeam), Croton (tropic), Crownbeard (golden), Devils Claw, Jimsonweed, Lambsquarters (common), Morningglory (entireleaf & red), apply the following amounts of **Crop Protect Direct Sulfen 4SC**:

- **Coarse Textured Soils:** 4.8 fl. oz./acre
- **Medium or Fine Textured Soils:** 6.4 fl. oz./acre

To control Amaranth (palmer), Crabgrass (large & Southern), Eclipta, Goosegrass, Morningglory (pitted & smallflower), Poinsettia (wild*), Redweed, apply the following amounts of **Crop Protect Direct Sulfen 4SC**:

- **Coarse Textured Soils:** 6.4 fl. oz./acre
- **Medium or Fine Textured Soils:** 8.0 fl. oz./acre

To control Anoda (spurred), Cocklebur (common), Nutsedge (yellow & purple**), Purslane (common), Sida (prickly), Starbur (prickly), apply the following amounts of **Crop Protect Direct Sulfen 4SC**:

- **Coarse Textured Soils:** 8.0 fl. oz./acre
- **Medium or Fine Textured Soils:** 9.6 fl. oz./acre

*Application rates for wild poinsettia will control initial germination and several continuing germinations.

**Application rates will control purple nutsedge if applied pre-plant incorporated. Partial control (up to 85%) will occur with pre-emergence applications; other application methods will result in 71%-84% control.

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 4SC** with specific local varieties of peanut.

Application Instructions

- Apply **Crop Protect Direct Sulfen 4SC** broadcast or banded. If making a broadcast application, apply **Crop Protect Direct Sulfen 4SC** in a minimum of 10 gallons of water per acre. If making a banded application, proportionately adjust the use rate according to the band width.
- If making a pre-plant incorporated application, mix thoroughly or incorporate **Crop Protect Direct Sulfen 4SC** into the soil no deeper than 2".
- Use the next lower application rate if soil pH is >7.

Application Restrictions

- Do not apply more than 9.6 fl. oz. product per acre (0.3 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.8 fl. oz./acre.
- Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil.
- Do not apply more than 9.6 fl. oz. product per acre (0.3 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not use on soils classified as "sand" (with <1% organic matter).
- Do not irrigate crops treated with **Crop Protect Direct Sulfen 4SC** with water if soil pH is >9.
- Do not feed livestock peanut forage or hay that has been treated with **Crop Protect Direct Sulfen 4SC**.
- Do not apply **Crop Protect Direct Sulfen 4SC** to peanut tissue or "at-crack".

Tank Mixes

Tank mix **Crop Protect Direct Sulfen 4SC** with grass herbicides registered for use on peanuts for optimal weed control. Apply **Crop Protect Direct Sulfen 4SC** with a post-emergent peanut herbicide for hard to control weeds and/or excessive weed pressure. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

POTATOES

Application Timing <ul style="list-style-type: none"> • Make pre-emergence applications by ground or aerial application. • Apply to soil surface before potatoes emerge, but after planting and drag off. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> • < 3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre • >3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre • >3.0% Organic Matter: 5.25 - 6.75 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.75 - 5.25 fl. oz./acre • 1.5%-3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre • >3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	Important <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 4SC with specific local varieties or cultivars of potatoes. • Sangre, Shepody, and Snowden varieties of potatoes have demonstrated sensitivity to Crop Protect Direct Sulfen 4SC. Test potato varieties to ensure crop tolerance. • Moisture (rain or irrigation) should occur post-application for Crop Protect Direct Sulfen 4SC to penetrate soil. • Crop injury can occur from irrigation with alkaline water with pH <7.5. • The amount of Crop Protect Direct Sulfen 4SC available in soil will significantly increase if irrigation occurs with water with a high pH. • Younger or stressed crops, or crops treated with higher rates of Crop Protect Direct Sulfen 4SC are more susceptible to crop injury from higher pH irrigation water. The potential for crop injury decreases as plant growth increases.
Application Instructions <ul style="list-style-type: none"> • Apply Crop Protect Direct Sulfen 4SC before potatoes emerge to avoid crop injury. • Mix Crop Protect Direct Sulfen 4SC in a minimum of 5 gallons of water for aerial applications; use a minimum of 10 gallons of water for ground application. • If dry conditions exist for 7 days post-application, incorporate Crop Protect Direct Sulfen 4SC into the soil to a depth no more than 2". • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). • Chemigation Applications: Crop Protect Direct Sulfen 4SC can be applied pre-emergence by chemigation. Use enough water to cover soil surface, but do not apply to point of runoff ($\frac{1}{4}$" - $\frac{1}{2}$" /acre). Apply Crop Protect Direct Sulfen 4SC through solid set, lateral move, end tow, hand-move or center-pivot sprinkler irrigation systems. During chemigation, Crop Protect Direct Sulfen 4SC can be applied with other approved products used for chemigation in potatoes. 	
Application Restrictions <ul style="list-style-type: none"> • Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.0 fl. oz./acre. • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. • Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). • Do not apply Crop Protect Direct Sulfen 4SC to emerged potatoes. • Do not use on soils classified as "sand" (with <1% organic matter). 	
Tank Mixes Crop Protect Direct Sulfen 4SC can be mixed with other soil-applied herbicides to control emerged weeds not controlled by Crop Protect Direct Sulfen 4SC . Crop Protect Direct Sulfen 4SC can be mixed with burndown herbicides and adjuvants labeled for use on potatoes to control emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).	

RHUBARB

Application Instructions <ul style="list-style-type: none"> • Apply 8 fl. oz./acre (0.25 lb. a.i./acre). • Make one post-emergence application just before Rhubarb plants break dormancy at 80 (+/- 5) days before harvest. • Apply in a minimum of 10 gallons of water per acre.
Application Restrictions <ul style="list-style-type: none"> • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. • PHI: 80 days. • Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). • Do not make more than one application per acre of Crop Protect Direct Sulfen 4SC in a 12-month period. • Do not use on soils classified as "sand" (with <1% organic matter).

SOYBEANS

Application Timing <ul style="list-style-type: none"> • Apply pre-emergence or pre-plant incorporated in the spring, or in the fall before planting. • Apply to the soil surface in the spring either pre-plant incorporated or pre-emergence up to 3 days after planting. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 4.5 - 6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre • >3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 6.0 - 8.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre • >3.0% Organic Matter: 10.1 - 12.0 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 8.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 10.1 fl. oz./acre • >3.0% Organic Matter: 12.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	Important <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 45C with specific varieties or cultivars of soybeans. • Crop injury can occur under stressed conditions such as disease, cool temperature, soil pH >7.5, prolonged/excessive moisture, and/or poor agronomic practices.
Application Instructions <ul style="list-style-type: none"> • In the spring, apply in conventional, conservation, or reduced or no-tillage cropping systems. • If making pre-plant incorporated application in the spring, mix thoroughly and shallowly incorporate into the soil. • In the fall, apply in conservation and no-tillage cropping systems for burndown of existing crop stubble and weeds and for pre-emergence control of weeds. For best results, fall treatments should be followed up with a spring herbicide application in the following crop season as needed. Apply when temperatures are 55°F to a soil depth of 4". If using a ridge till production system, form ridges or beds prior to application. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). • Ground or aerial applications: Mix Crop Protect Direct Sulfen 45C in water to make a minimum of 5 gallons of spray solution for aerial application or 10 gallons for ground applications. Use enough spray volume to adequately cover soil. Apply with nozzles that produce a minimum amount of fine droplets, but also allow adequate soil coverage. • Observe the following date restrictions: <ul style="list-style-type: none"> - Areas north of I-90: Apply after September 30th. - Areas north of I-70: Apply after October 15th. - Areas South of I-70: Do not apply in the fall. 	
Application Restrictions <ul style="list-style-type: none"> • Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre. • Do not apply Crop Protect Direct Sulfen 45C to frozen or snow-covered soil. • Do not feed treated soybean forage or soybean hay to livestock. • Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 45C is first applied). • Do not apply Crop Protect Direct Sulfen 45C after soybean seeds germinate, seedlings close to soil surface or emerged seedlings. • Do not use on soils classified as "sand" (with <1% organic matter). • Do not incorporate Crop Protect Direct Sulfen 45C to a depth >2". • Do not apply Crop Protect Direct Sulfen 45C to frozen or snow-covered soil. 	
Tank Mixes Crop Protect Direct Sulfen 45C can be mixed with burndown herbicides to control emerged weeds. If applying in the fall, mix products with water to make a minimum of 20 gallons of finished spray per acre. If weeds are emerged, COC or MSO adjuvants can be added to the mix for enhanced burndown activity. If applying in the spring, Crop Protect Direct Sulfen 45C can be tank mixed with or followed by an application of a post-emergence soybean herbicide. Adding a surfactant to the tank mix will enhance weed control. Use the most restrictive label and precautions of the tank mix product(s).	

SUCCULENT PEAS

Cajanus cajan (includes pigeon pea); *Cicer* spp. (includes chickpea and garbanzo bean); *Lens culinaris* (lentil); *Pisum* spp. (includes dwarf pea, garden pea, green pea, English pea, field pea, and edible pod pea)

Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 2.25 - 3.75 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre • >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre 	Important <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
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<p>Medium Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre • >3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre <p>Fine Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.75-6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 4.5-6.0 fl. oz./acre • >3.0% Organic Matter: 5.25-6.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	<ul style="list-style-type: none"> • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 4SC with specific local varieties or cultivars of succulent peas. • Planting less than 1" in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
<p>Application Instructions</p> <ul style="list-style-type: none"> • Make pre-emergence application of Crop Protect Direct Sulfen 4SC in a minimum of 10 gallons of finished spray per acre. • Apply with ground equipment. • Wait a minimum of 7 days after application to plant in coarse textured soils with <1.5% organic matter. • Reduce rate of Crop Protect Direct Sulfen 4SC on coarse textured soil with organic matter <1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize crop injury. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0 and lower rates within the specified rate range with higher soil pH (>7.0). 	
<p>Application Restrictions</p> <ul style="list-style-type: none"> • Do not make more than one application of Crop Protect Direct Sulfen 4SC per year. • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. • Do not use on soils classified as "sand" (with <1% organic matter). • Do not apply more than 6.0 fl. oz. product per acre (0.1875 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). • Do not apply Crop Protect Direct Sulfen 4SC if succulent peas have emerged. • Do not apply to succulent peas in extended periods of dry weather. • Do not incorporate Crop Protect Direct Sulfen 4SC into the soil. 	

SUGARCANE

<p>Application Timing</p> <ul style="list-style-type: none"> • Apply pre-emergence to newly planted sugarcane. 	
<p>Application Rates</p> <p>Coarse Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 4.5 - 6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 6.0 - 8.3 fl. oz./acre • >3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre <p>Medium Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 6.0 - 8.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre • >3.0% Organic Matter: 10.1 - 12.0 fl. oz./acre <p>Fine Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 8.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 10.1 fl. oz./acre • >3.0% Organic Matter: 12.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	<p>Important</p> <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 4SC with specific varieties or cultivars of sugarcane.
<p>Application Instructions</p> <ul style="list-style-type: none"> • Make pre-emergent application to ratoon or newly planted sugarcane, or to sugarcane at lay-by timing (direct spray). • Pre-emergent applications can be made broadcast, banded, aerially or with ground equipment. • If making aerial application, apply in a minimum of 5 gallons of spray per acre. • If making ground application, apply in a minimum of 15 gallons of spray per acre. • For all applications, use the higher rate within the specified rate range if soil is >2% organic matter or is clay. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). 	
<p>Application Restrictions</p> <ul style="list-style-type: none"> • Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre. • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. • Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). • Do not use on soils classified as "sand" (with <1% organic matter). • Do not allow Crop Protect Direct Sulfen 4SC to contact crop leaves. • Pre-Harvest Interval (PHI): 120 days. 	
<p>Tank Mixes</p> <p>Crop Protect Direct Sulfen 4SC can be applied with other herbicides and insecticides registered for use on sugarcane to control emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).</p>	

SUNFLOWER

Application Timing <ul style="list-style-type: none"> • Make pre-plant applications in the fall before spring planting. • Fall applications allowed in the states of: CO, KS, MN, MT, ND, NE, SD, and WY. • Make early pre-plant, pre-emergence, and/or pre-plant incorporated applications in the spring prior to planting up to 3 days after planting. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 3.75 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre • >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre • >3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.75-5.25 fl. oz./acre • 1.5%-3.0% Organic Matter: 4.5-6.75 fl. oz./acre • >3.0% Organic Matter: 6.0-8.0 fl. oz./acre See Soil Categories chart for additional information.	Important <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 45C with specific local varieties or cultivars of sunflowers. • Planting less than 1" in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response. • Moisture (rain or irrigation) should occur post- application for Crop Protect Direct Sulfen 45C to penetrate soil.
Application Instructions <ul style="list-style-type: none"> • Apply to stubble or soil surface pre-plant incorporated in the fall. • Fall applications allowed in the states of: CO, KS, MN, MT, ND, NE, SD, and WY. • For fall applications, use a mid-high rate within the specified rate range for your soil type and for applications in the spring greater than 3 weeks before planting - use a high rate range for your soil type because of the extended time period between application and planting. • Make early pre-plant, pre-emergence, and/or pre-plant incorporated applications in the spring prior to planting up to 3 days after planting (if seed furrow is completely closed and seedling have not broken the soil surface). • Wait a minimum of 7 days after application to plant in coarse textured soils with <1.5% organic matter. • If making pre-plant incorporated application in the spring to reduced or conventional tillage sunflowers, mix thoroughly or shallowly incorporate Crop Protect Direct Sulfen 45C into the soil. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0 and lower rates within the specified rate range with higher soil pH (>7.0). 	
Application Restrictions <ul style="list-style-type: none"> • Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.0 fl. oz./acre. • Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 45C is first applied). • Do not incorporate Crop Protect Direct Sulfen 45C into the soil deeper than 2". • Do not disturb the soil surface after Crop Protect Direct Sulfen 45C treatment. • Do not use on soils classified as "sand" (with <1% organic matter). • Do not apply Crop Protect Direct Sulfen 45C to frozen or snow-covered soil. 	
Tank Mixes Crop Protect Direct Sulfen 45C can be tank mixed or split-applied with burndown herbicides to control emerged weeds. Crop Protect Direct Sulfen 45C can be tank mixed with other herbicides registered for use on sunflowers to enhance weed control and suppression. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).	

TOBACCO**(Burley, Flue-Cured and Dark)**

Application Timing <ul style="list-style-type: none"> • Make pre-plant incorporated applications or pre-emergence applications to tobacco transplants. • Fall applications allowed in the states of: CO, KS, MN, MT, ND, NE, SD, and WY. • Make early pre-plant, pre-emergence, and/or pre-plant incorporated applications in the spring prior to planting up to 3 days after planting. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 4.5 - 6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre • >3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 6.0 - 8.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre 	Important <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 45C with specific local varieties or cultivars of tobacco.

<ul style="list-style-type: none"> • >3.0% Organic Matter: 10.1 - 12.0 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 8.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 10.1 fl. oz./acre • >3.0% Organic Matter: 12.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	<ul style="list-style-type: none"> • Poor growing conditions (diseases, low temperature, soil compaction/pH, excessive moisture, drought, poor agronomic practices or other unfavorable conditions) can also cause adverse crop response. • If heavy rainfall occurs after transplant or transplants are set shallowly in soil temporary stunting can occur. • Observe responsible transplanting practices to avoid exposure of transplants to Crop Protect Direct Sulfen 4SC to avoid crop injury.
Application Instructions <ul style="list-style-type: none"> • Make broadcast applications to the soil surface pre-plant or pre-plant incorporated in a minimum of 10 gallons of finished product per acre from 14 days to 12 hours before transplanting tobacco. • If making pre-plant incorporated application, mix thoroughly or shallowly incorporate Crop Protect Direct Sulfen 4SC into the soil. • If applying in non-bedded fields (raised beds not formed prior to transplanting) and making a soil surface application of Crop Protect Direct Sulfen 4SC, use light finishing equipment to remove equipment tracks from the field post-application. • If applying to bedded fields (raised beds formed prior to transplanting), any dragging or knocking down of beds prior to transplanting must occur prior to application of Crop Protect Direct Sulfen 4SC. • New tobacco transplants can be replanted if the first transplant does not produce a uniform stand. If replanted: 1) Do not re-treat fields with a second application of Crop Protect Direct Sulfen 4SC or any other sulfentrazone-containing product; 2) Do not reform beds prior to replanting; plant new transplants into existing beds that have already been treated with Crop Protect Direct Sulfen 4SC. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0 and lower rates within the specified rate range with higher soil pH (>7.0). 	
Application Restrictions <ul style="list-style-type: none"> • Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre. • Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). • Do not incorporate Crop Protect Direct Sulfen 4SC into the soil deeper than 2". • Do not disturb soil once incorporated. • Do not perform other tillage practices that could concentrate Crop Protect Direct Sulfen 4SC into the soil. • Do not disturb the soil surface after Crop Protect Direct Sulfen 4SC treatment. • Do not use on soils classified as "sand" (with <1% organic matter). • Do not apply Crop Protect Direct Sulfen 4SC post-transplant. • Do not apply to shade grown tobacco, tobacco seedling beds, or tobacco in greenhouses. • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. • Pre-Harvest Interval (PHI): 14 days 	
Tank Mixes Crop Protect Direct Sulfen 4SC can be tank mixed with a grass herbicide for optimal control of emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).	

TOMATO (Transplanted Only)

Application Timing <ul style="list-style-type: none"> • Make pre-emergence applications to tomato transplants. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 2.25 - 3.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.0 - 6.0 fl. oz./acre • >3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 6.0 - 4.5 fl. oz./acre • 1.5%-3.0% Organic Matter: 6.0 fl. oz./acre • >3.0% Organic Matter: 8.0 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre • >3.0% Organic Matter: 8.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	Important <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 4SC with specific local varieties or cultivars of tomato.
Application Instructions <ul style="list-style-type: none"> • Make banded or broadcast applications before transplanting tomatoes. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0 and lower rates within the specified rate range with higher soil pH (>7.0). 	
Application Restrictions <ul style="list-style-type: none"> • Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre. 	

- Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not use on soils classified as “sand” (with <1% organic matter).

TREE NUTS

Crop Group 14: Almond, Beech Nut, Brazil Nut, Bitternut, Cashew, Chinquapin, Filbert (Hazelnut), Hickory Nut, Macadamia Nut (Bush Nut), Pecan, Pistachio, and Walnut (Black and English)

Application Timing

- Make a broadcast soil application when weeds are not present and/or a post-emergence herbicide has been tank mixed with **Crop Protect Direct Sulfen 4SC**.
- Make applications to crops that have been established for one full growing season and are healthy and vigorous.
- Apply **Crop Protect Direct Sulfen 4SC** when soil is moist and application will be followed by ½” rainfall or irrigation within two weeks after application.
- Time applications to take advantage of normal rainfall and cool temperatures, especially if using drip or micro sprinkler irrigation is used which may not provide uniform incorporation into the soil.

Application Instructions

- Apply with ground application equipment only.
- Make a uniform broadcast soil application to orchard and vineyard floors, to berry beds, and furrows.
- Apply in a minimum of 10 gallons of spray solution per acre. The spray solution pH should be 5.0-9.0; nozzles must meet manufacturer’s spray volume and pressure specifications for pre-emergence and post-emergence herbicide applications.
- Wrap the trunks of green bark, young vines, and trees with a non-porous wrap, grow tubes, or wax containers to avoid **Crop Protect Direct Sulfen 4SC** contact with green tissue.
- Apply as a uniform band application directed to the base of the tree trunk in trees and vines and to the base of the berry and beds in berries.
- **Broadcast Applications:** Make a single application of 4-12 fl. oz./acre (0.125-0.375 lb. a.i./acre).
- **Banded Applications:** Refer to the following chart for the appropriate rate and volume of **Crop Protect Direct Sulfen 4SC** to be applied. **Crop Protect Direct Sulfen 4SC** can be applied twice in one year. For band treatments, apply the broadcast rate and volume per acre. To determine these:

$$\text{Band Rate} = \frac{\text{Band Width (Ft.)}}{\text{Row Within Feet}} \times \text{Broadcast Rate/Acre}$$

$$\text{Band Volume} = \text{Band Width Feet} \times \text{Broadcast Volume/acre}$$

Application Restrictions

- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre
- Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not apply **Crop Protect Direct Sulfen 4SC** to green tissue, crop foliage, or fruit.
- Do not make aerial applications.
- Do not apply after petal fall unless using a hooded or shielded sprayer to avoid contact with foliage and fruit.
- Do not apply when heavy crop trash is present (leaves/branches/weed residue). Clean the area to be treated prior to applying **Crop Protect Direct Sulfen 4SC**.
- Do not apply to powdery soils or soils where windy conditions may displace soil unless soil can be irrigated immediately after treatment.
- Pre-Harvest Interval (PHI): 3 days
- If two banded treatments are made, wait a minimum of 60 days between applications. Do not exceed the annual maximum use rate.

Tank Mixes

Crop Protect Direct Sulfen 4SC can be tank mixed with other pre-emergence and post-emergence burndown herbicides labeled for use on listed crops. Refer to the tank mix partner label for the proper use directions and restrictions. Use the most restrictive label and precautions of the tank mix product(s). Do not tank mix sulfentrazone-containing products with flumioxazin.

Replanting in New or Established Orchards and Vineyards

Wait at least 30 days after applying **Crop Protect Direct Sulfen 4SC** before replanting trees and vines in newly planted and established orchards and vineyards. Use untreated soil when replanting trees and vines.

Control/Suppression of Sedge/Nutsedge

- Make a post-emergence application of **Crop Protect Direct Sulfen 4SC** at 12 fl. oz./acre (0.375 lb. a.i./acre).
- Use a 25% v/v non-ionic surfactant (NIS).
- Post-emergence applications are most effective since **Crop Protect Direct Sulfen 4SC** is absorbed into the plant through the foliage and roots.
- Pre-emergence applications of **Crop Protect Direct Sulfen 4SC** will suppress sedges, but will not provide complete control.
- For optimal control of purple nutsedge, make split applications of **Crop Protect Direct Sulfen 4SC**. Make an initial application of 4-6 fl. oz./acre followed by a 2nd application to actively growing purple nutsedge. DO NOT exceed the maximum application rate of 12 fl. oz./acre (0.375 lb. a.i./acre). Optimal control may not occur until the 2nd year after the initial application of **Crop Protect Direct Sulfen 4SC**.

TURFGRASSES

Crop Protect Direct Sulfen 4SC controls broadleaf, grass and sedge weeds in established turfgrasses (seeded, sodded, or sprigged). For optimal results and to avoid turfgrass injury, turfgrass should be established with a good root system and uniform stand. Not all varieties of turfgrasses have been tested with **Crop Protect Direct Sulfen 4SC**. Consult with university or weed management specialists for information on using **Crop Protect Direct Sulfen 4SC** with specific local varieties or cultivars of turfgrass. See the table below for turfgrasses tolerant to **Crop Protect Direct Sulfen 4SC** and the **Turfgrass Application Instructions**.

Cool Season Grasses: Bentgrass (Creeping) Bluegrass, Kentucky (<i>Poa pratensis</i>) Bluegrass, Rough (<i>Poa trivialis</i>) Fescue, Fine* (<i>Festuca rubra</i>) Fescue, Tall (<i>Festuca arundinacea</i>) Ryegrass (Perennial) (<i>Lolium perenne</i>)	Application Rates of Crop Protect Direct Sulfen 4SC: Bentgrass (Creeping): Maximum of 4 fl. oz./acre All others: 4-8 fl. oz./acre
*Chewings fine fescue and tall fescue are sensitive to Crop Protect Direct Sulfen 4SC .	
Warm Season Grasses: Bahia grass (<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 (<i>Cynodon bluegrass</i>) St. Augustinegrass** (<i>Stenotaphrum secundatum</i>)	8-12 fl. oz./acre
**St. Augustinegrass and some varieties of Bahia grass, or zoysiagrass, particularly turfgrass that has been stressed by chemicals, disease, cultural practices, cultivation, weather, and mechanical exposure, can exhibit temporary leaf surface discoloration after applying Crop Protect Direct Sulfen 4SC .	

Pre-Emergence Weed Control

The following table lists the weeds controlled and timing of application:

Summer Annual Weeds: Apply Crop Protect Direct Sulfen 4SC in the early spring prior to germination of weed seeds to control:	
Broadleaf Weeds	Grassy Weeds
Black medic (<i>Medicago lupulina</i>) Knotweed, Prostrate (<i>Polygonum aviculare</i>) Pigweed, Smooth (<i>Amaranthus hybridus</i>) Pigweed, Redroot (<i>Amaranthus retroflexus</i>) Purslane, Common (<i>Portulaca oleracea</i>) Spurge (<i>Euphorbia</i>) Spurge, Prostrate (<i>Euphorbia supine</i>) Spurge, Spotted (<i>Euphorbia maculata</i>)	Barnyardgrass, Common (<i>Echinochloa crus-galli</i>) Crabgrass, Large (<i>Digitaria sanguinalis</i>) Crabgrass, Smooth (<i>Digitaria ischaemum</i>) Foxtail, Green (<i>Setaria viridis</i>) Foxtail, Yellow (<i>Setaria glauca</i>) Goosegrass (<i>Eleusine indica</i>)
Winter Annual Weeds: Apply Crop Protect Direct Sulfen 4SC in the late summer or early fall.	
Broadleaf Weeds	Grassy Weeds
Buttercup (<i>Ranunculus</i> spp.) Carolina Geranium (<i>Geranium carolinianum</i>) Chickweed, Common (<i>Stellaria media</i>) Chickweed, Mouseear (<i>Stellaria vulgarum</i>) Corn Speedwell (<i>Veronica arvensis</i>) Groundsel, Common (<i>Senecio vulgaris</i>) Hairy Bittercress (<i>Cardamine hirsute</i>) Henbit (<i>Lamium amplexicaule</i>) Knawel (<i>Scleranthus annuus</i>) Large Hop Clover (<i>Trifolium campestre</i>) Parsley-piert (<i>Alchemilla microcarpa</i>) Violet, Johnny-jump-up (<i>Viola rafinesquii</i>)	Bluegrass, Annual (<i>Poa annua</i>) Ryegrass, Annual (<i>Lolium multiflorum</i>)

Post-Emergent Weed Control

The following table lists the weeds controlled and timing of application:

Broadleaf Weeds	Grassy Weeds
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<p>Bedstraw, Catchweed (<i>Galium aparine</i>) Beggartweed, Florida (<i>Desmodium tortuosum</i>) Bittercress (<i>Cardamine</i> spp.) Black medic (<i>Medicago lupulina</i>) Buttercup (<i>Ranunculus</i> spp.) Carolina Geranium (<i>Geranium carolinianum</i>) Carpetweed (<i>Mollugo verticillata</i>) Chickweed, Common (<i>Stellaria media</i>) Chickweed, Mouseear (<i>Stellaria vulgarum</i>) Cinquefoil (<i>Potentilla</i> spp.) Clover species (<i>Trifolium</i> spp.) Copperleaf (<i>Acalypha</i> spp.) Cudweed (<i>Gnaphalium</i> spp.) Dandelion (<i>Taraxacum officinale</i>) Dock, Curly (<i>Rumex crispus</i>) Dollarweed (<i>Hydrocotyle umbellata</i>) Eclipta (<i>Eclipta prostrata</i>) Evening Primrose (<i>Oenothera biennis</i>) Fiddleneck species (<i>Amsinckia</i> spp.) Filaree (<i>Erodium</i> spp.) Galinsoga (<i>Galinsoga ciliate</i>) Garlic, Wild (<i>Allium vineale</i>) Goldenrod (<i>Solidago</i> spp.) Ground Ivy (<i>Glechoma hederacea</i>) Groundsel, Common (<i>Senecio vulgaris</i>) Henbit (<i>Lamium amplexicaule</i>) Knapweed (<i>Scleranthus annuus</i>) Knotweed, Prostrate (<i>Polygonum aviculare</i>) Kochia (<i>Kochia scoparia</i>) Lambsquarters, Common (<i>Chenopodium album</i>) Lawn burweed (spurweed) (<i>Soliva pterosperma</i>) Lespedeza, Common (<i>Lespedeza striata</i>) Mallow, Common (<i>Malva neglecta</i> wall R.) Onion, Wild (<i>Allium canadense</i>) Parsley-piert (<i>Alchemilla microcarpa</i>) Pigweed, Redroot (<i>Amaranthus retroflexus</i>) Pigweed, Smooth (<i>Amaranthus hybridus</i>) Pigweed, Tumble (<i>Amaranthus albus</i>) Pineapple Weed (<i>Matricaria matricarioides</i>) Plantain, Buckhorn (<i>Plantago lanceolata</i>) Puncture Weed (<i>Tribulus terrestris</i>) Purslane, Common (<i>Portulaca oleracea</i>) Pusley, Florida (<i>Portulaca oleracea</i>) Redweed (<i>Melochia corchorifolia</i>) Rocket, London (<i>Sisymbrium irio</i>) Shepherd's Purse (<i>Capsella bursa-pastoris</i>) Smartweed, Pennsylvania (<i>Polygonum Pensylvanicum</i>) Sorrel, Red (<i>Rumex acetosella</i>) Speedwell (<i>Veronica</i> spp.) Spurge, Annual (<i>Euphorbia</i> spp.) Spurge, Prostrate (<i>Euphorbia supine</i>) Spurge, Spotted (<i>Euphorbia maculate</i>) Star of Bethlehem (<i>Ornithogalum umbellatum</i>) Velvetleaf (<i>Abutilon theophrasti</i>) Violet, Johnny-jump-up (<i>Viola rafinesquii</i>) Violet, Wild (<i>Viola pratensis</i>) Woodsorrel, Creeping (<i>Oxalis corniculata</i>) Woodsorrel, Yellow (<i>Oxalis stricta</i>)</p>	<p>Goosegrass (<i>Eleusine indica</i>)</p> <p>Sedges Kyllinga, Green (<i>Kyllinga brevifolia</i>) Kyllinga, False Green (<i>Kyllinga gracillima</i>) Nutsedge, Purple* (<i>Cyperus rotundus</i>) Nutsedge, Yellow (<i>Cyperus esculentus</i>) Sedge, Cylindrical (<i>Cyperus retrorsus</i>) Sedge, Globe (<i>Cyperus globulosus</i>) Sedge, Surinam (<i>Cyperus surinamensis</i>) Sedge, Texas (<i>Cyperus polystachyos</i>)</p> <p>*Split applications give optimal control of purple nutsedge. Apply as indicated below to actively growing purple nutsedge:</p> <ul style="list-style-type: none"> • Cool Season Grasses: 2-4 fl. oz./acre 1st application, followed by 2nd application of 4-6 fl. oz./acre (do not exceed 6 fl. oz./acre on cool season grasses). • Warm Season Grasses: 6-8 fl. oz./acre 1st application, followed by 2nd application of 4-6 fl. oz./acre (do not exceed 12 fl. oz./acre on warm season grasses).
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Turfgrass Application Instructions

- Observe the maximum rate per acre base on turf variety, as indicated in the tables above.
- Allow 35 days between applications.
- Application rates lower than 12 fl. oz./acre will control grasses for 60 days.
- Optimal control is achieved when applied to grasses that are actively growing and small (pre-tiller stage).
- Optimal control of broadleaf weed is achieved when **Crop Protect Direct Sulfen 45C** is applied shortly after weed emergence.
- Optimal weed coverage is obtained with thorough spray coverage.
- Observing proper fertilization, irrigation, and soil cultivation practices, and using mechanical or power seeding equipment will give optimum overseeding or reseeding results.

Applications to Sprigged, Overseeded, or Reseeded Areas

Turfgrass can be sprigged, overseeded, or reseeded after **Crop Protect Direct Sulfen 4SC** applications. Optimal results are obtained by waiting at least 1 month after **Crop Protect Direct Sulfen 4SC** application before sprigging, overseeding, or reseeding. If slight plant response can be tolerated, overseeding of Bermudagrass with perennial ryegrass can occur between 2-4 weeks after **Crop Protect Direct Sulfen 4SC** application.

Tank Mixes and Adjuvants

Tank mixing with other pesticides registered for use on turfgrass can extend weed control range and enhance effectiveness of **Crop Protect Direct Sulfen 4SC** 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.

Sod production areas: Establish sod production areas for 3 months before making an initial treatment with **Crop Protect Direct Sulfen 4SC**.

Use of **Crop Protect Direct Sulfen 4SC** with trinexapac-ethyl within 7 days can cause temporary discoloration. To avoid discoloration, apply **Crop Protect Direct Sulfen 4SC** and trinexapac-ethyl combinations more than 7 days apart.

Turfgrass Restrictions:

- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not apply more than three applications per year when using reduced application rate equal to or less than 4.0 fl oz/A of this product.
- Do not apply more than 12 fl. oz. of **Crop Protect Direct Sulfen 4SC** (0.375 lb. a.i./acre) per acre per 12-month period. The 12-month period starts at the point of first application.
- 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 **Crop Protect Direct Sulfen 4SC**.
- Do not use **Crop Protect Direct Sulfen 4SC** with surfactants unless the surfactant/sulfentrazone combination has been proven safe and effective for a particular turf variety.
- Do not harvest sod within three (3) months of **Crop Protect Direct Sulfen 4SC** application.
- Do not apply to frozen soils or existing snow cover to prevent **Crop Protect Direct Sulfen 4SC** Herbicide runoff from rain or snowmelt that may occur following application.

TURNIPS

Application Instructions

- Apply 8 fl. oz./acre (0.25 lb. a.i./acre).
- Make one post-emergence application 40-60 days before harvest.
- Apply in 10-40 gallons of water per acre.

Application Restrictions

- Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not make more than one application per acre of **Crop Protect Direct Sulfen 4SC** in a 12-month period.
- Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil.
- Do not use on soils classified as "sand" (with <1% organic matter).

WHEAT (Spring)

(Pacific Northwest states of ID, OR, and WA only)

Application Instructions

- Apply 6 fl. oz./acre (0.188 lb. a.i./acre).
- Make one pre-plant or pre-emergence application 40-60 days before forage cutting and 120 days before grain harvest.
- Apply in 10-40 gallons of water per acre.

Application Restrictions

- Do not apply more than 6.0 fl. oz. product per acre (0.188 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not make more than one application per acre of **Crop Protect Direct Sulfen 4SC** in a 12-month period.
- Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil.
- Do not use on soils classified as "sand" (with <1% organic matter).

VEGETABLE SOYBEAN (EDAMAME)

Application Timing

- Make pre-emergence applications to edamame.

Application Rates

Coarse Textured Soils:

- <1.5% Organic Matter: 2.25 - 3.75 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.

<ul style="list-style-type: none"> • >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre <p>Medium Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre • >3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre <p>Fine Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.75 - 6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre • >3.0% Organic Matter: 5.25 - 6.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	<ul style="list-style-type: none"> • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 45C with specific local varieties or cultivars of edamame. • Optimum control may not be achieved under dry weather conditions. • Poor growing conditions (diseases, low temperature, soil compaction/pH, excessive moisture, drought, poor agronomic practices or other unfavorable conditions) can also cause adverse crop response. • Inadequate seed furrow closure and shallow planting (less than 1.0") can result in crop injury.
<p>Application Instructions</p> <ul style="list-style-type: none"> • Apply 6.0 fl. oz./acre (0.1875 lb. a.i./acre) Crop Protect Direct Sulfen 45C. • Apply using ground equipment in a minimum of 10 gallons of water. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0 and lower rates within the specified rate range with higher soil pH (>7.0). • If applying Crop Protect Direct Sulfen 45C to coarse soil with <1.5% organic matter, wait a minimum of 7 days after application before planting. • Crop injury may occur when Crop Protect Direct Sulfen 45C is applied to textured soil with low organic matter (<1.5%) and soil pH >7.8, or on highly eroded soils, or in areas of calcareous outcroppings. Use the lowest rate within the specified rate range under these conditions. 	
<p>Application Restrictions</p> <ul style="list-style-type: none"> • Do not apply more than 6.0 fl. oz. product per acre (0.1875 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 45C is first applied). • Do not use on soils classified as "sand" (with <1% organic matter). • Do not make more than one application per year. • Do not apply Crop Protect Direct Sulfen 45C to frozen or snow-covered soil. • Do not incorporate into the soil. 	

STORAGE AND DISPOSAL

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

Pesticide Storage

STORE ABOVE -4°F TO KEEP PRODUCT FROM FREEZING. If frozen, thaw before use. Observe recirculation directions under Mixing and Handling Instructions for Bulk/Mini-Bulk Containers. Keep out of reach of children and animals. Store in original containers only. Store in a dry place. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. To confine spill: Dike surrounding area or absorb with sand, cat litter or commercial clay. Place damaged package in a holding container. Identify contents.

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. 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 [Non-Refillable Plastic Containers ≤5 gal] Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Container Handling [Non-Refillable Plastic Containers >5 gal] Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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. Turn the container over onto its other 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. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration.

[Nonrefillable Plastic (e.g., Intermediate Bulk Containers [IBC]) (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down)] Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into formulation equipment and before final disposal using the following pressure rinsing procedure: Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure spray duration and/or spray volume. If the manufacturer's instructions are not available pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain pour or pump rinsate into formulation equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill or by incineration. For Metal

Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Container Handling [For Bulk and Mini-Bulk Containers]

Refillable container. Refill this container with pesticide only. Do not use 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 person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by State and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

WARRANTY AND DISCLAIMER STATEMENT

JABCO, LLC, warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use herein described when used in accordance with the directions for use. The Directions For Use are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with 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 JABCO, LLC, or the SELLER. To the extent consistent with applicable law, JABCO, LLC., shall not be liable for the consequential, special or indirect damages resulting from the handling or use of this product. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

Except as expressly provided herein, JABCO, LLC, makes no warranties, guarantees, or representations of any kind, either express or implied, or by usage of trade, statutory or otherwise, with regard to the product sold, including but not limited to, merchantability, fitness for a particular purpose, use or eligibility of the product for any particular trade usage.

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Pages 34-44 - Sub-Label B:

SULFENTRAZONE	GROUP	14	HERBICIDE
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Crop Protect Direct Sulfen 4SC

ABN: Crop Protect Direct Sulfen 4SC Herbicide

Turfgrasses & 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

ACTIVE INGREDIENT:

WT. BY %

Sulfentrazone: N-{2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazole-1-yl]

phenyl}methanesulfonamide 39.6%

OTHER INGREDIENTS: 60.4%

TOTAL: 100.0%

It is a Suspension Concentrate, Contains 4.0 lbs. active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCIÓN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.

(If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • 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.
EMERGENCY NUMBERS	
<p>Emergency - You may also contact the Poison Control Center at 1-800-222-1222 for emergency medical treatment information. Non-emergency-National Pesticides Information Center (NPIC): 1-800-858-7378, Monday through Friday, 8 AM to 12 PM PST, or at http://npic.orst.edu. For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 or 1-703-527-3887 (collect calls accepted)</p>	

[Optional referral statements when booklets and container labels are used:

See Panel for First Aid Instructions and booklet for complete Precautionary Statements and Directions for Use.

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

See label booklet for additional Precautionary Statements, Directions For Use, and Storage and Disposal.

See label booklet for complete Directions For Use.]

Manufactured [For/by]:

JABCO, LLC

550 W Pioneer Blvd, Suite 140

Mesquite, NV 89027

EPA Reg. No. 101458-18

EPA Est.: _____

Net Contents: _____ [Gallons/Liters]

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, polyethylene, polyvinyl chloride ≥14 mils, or Viton® ≥14 mils
- Shoes plus socks

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands thoroughly after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

Do not apply this product through any type of irrigation system. 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.

DO NOT exceed specified label rates listed in this label. Refer to the directions for use for maximum use rates for specific crops. Calculate the 12-month period for the purpose of maximum use rates from the time that this product is first applied.

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

ENVIRONMENTAL HAZARDS

This product 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. Do not apply when weather conditions favor drift from the area treated. Do not apply where runoff is likely to occur. Do not contaminate water when disposing of equipment washwaters. Apply this product only as specified on this label.

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 this product on coarse soils, such as sand, which has 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 months post application. These include poorly draining or wet soils with readily visible slopes towards adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filler strips, and areas over-lying tile drainage systems that drain to surface waters.

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
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, polyethylene, polyvinyl chloride ≥14 mils, or Viton® ≥14 mils
- 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.

Do not enter or allow others to enter treated areas until sprays have dried.

PRODUCT INFORMATION

Crop Protect Direct Sulfen 4SC is a soil-applied selective herbicide that controls specific grasses, sedges, and broadleaf weeds. Sulfentrazone, the active ingredient in this product, inhibits a plant enzyme that is required for producing chlorophyll. Disabling this enzyme causes the release of singlet oxygen (O) which disrupts cellular membranes, causing cell leakage and cell death, which ultimately results in weed death.

PROPER HANDLING INSTRUCTIONS

Restrictions:

- Do not mix or load **Crop Protect Direct Sulfen 4SC** within 50 feet of any well, including abandoned wells, 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 wells and does not apply to impervious pads or properly diked mixing/loading areas.
- Do not apply this product through any type of irrigation system. Do not use flood irrigation to apply or incorporate this product.

Operations that involve mixing, loading, rinsing, or washing to **Crop Protect Direct Sulfen 4SC** into or from pesticide handling or application equipment or container 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 washwater 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 a minimum of 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.

Crop Protect Direct Sulfen 4SC must be used in a manner which will prevent back siphoning in wells, spills, or improper disposal of excess pesticide, spray mixtures or rinsates.

APPLICATION INSTRUCTIONS

See the crop specific instructions below for additional use precautions/restrictions.

Make broadcast applications of **Crop Protect Direct Sulfen 4SC** at specified rates in early spring, late summer, or fall for optimal results. Apply in adequate water to provide thorough coverage to make at least 10 gallons finished spray per acre. Use water as the carrier if **Crop Protect Direct Sulfen 4SC** is applied alone or in a tank-mix.

Apply **Crop Protect Direct Sulfen 4SC** using boom and nozzle sprayers or boomless application systems. Make application at spray pressure of ≤25 PSI, unless otherwise specified by the manufacturer. Use appropriate and calibrated nozzles, spray, tips, and screens for minimum amounts of fine spray droplets, and optimal spray delivery and coverage.

Treatments to railroad rights-of-way can be made by helicopter. Do not allow spray to drift to adjacent plants or plant injury can occur.

When activated, **Crop Protect Direct Sulfen 4SC** will provide control of listed weeds. The level of controls depends on the weed size and type. Dry weather without rain or irrigation will reduce the effect of **Crop Protect Direct Sulfen 4SC** on germinating weed species. DO NOT apply **Crop Protect Direct Sulfen 4SC** in drought conditions or when rainfall/irrigation is not available.

Weed seedling and germinating weeds absorb **Crop Protect Direct Sulfen 4SC** through the soil. The amount of **Crop Protect Direct Sulfen 4SC** available in the soil will depend on the soil type, soil pH, and amount of organic matter in the soil.

Aerial Application Instructions

Apply **Crop Protect Direct Sulfen 4SC** with appropriate nozzles that provide optimal coverage, minimize drift and keep fine droplets to a minimum. Make application of **Crop Protect Direct Sulfen 4SC** in a volume that is appropriate to provide sufficient coverage. Use a minimum spray volume of 5 gallons per acre. **Do not** apply **Crop Protect Direct Sulfen 4SC** when wind speed is likely to cause the product to drift outside the target area.

Aerial Application Restrictions

- Aerial application is allowed only when environmental conditions prohibit ground application. Aerial application will be allowed when the field is too wet to safely apply pesticides using ground equipment.
- When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre. 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.

Ground Application Instructions

Apply **Crop Protect Direct Sulfen 4SC** with a boom and nozzle sprayer that contains the appropriate spray tips, screens, and nozzles. Calibrate application equipment for optimal coverage and spray distribution at the appropriate pressure. Use spray nozzles designed to minimize drift and keep fine spray droplets to a minimum. Make **Crop Protect Direct Sulfen 4SC** applications in a minimum spray volume of 10 gallons per acre. Overlapping application areas can injure crops. When starting, turning or stopping, slower ground speed of the application equipment can lead to crop injury. **Do not** make **Crop Protect Direct Sulfen 4SC** application when wind speed is likely to cause the product to drift outside the target area.

CALIFORNIA SPECIFIC RESTRICTIONS

Runoff Groundwater Protection Areas: Do not apply **Crop Protect Direct Sulfen 4SC** in areas defined by the California Department of Pesticide Regulation as being "runoff groundwater protection areas*" unless one of the following management practices can be met:

- 1) **Pesticide Incorporation:** Within 48 hours after the day this product is applied, the pesticide shall be incorporated on at least 90% 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 1 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
- 2) **Retention of Runoff on Field:** For 6 months post-application, the field shall be designed to retain all irrigation runoff and all precipitation on, and drainage through the field by berms, levees, or non-draining circulation systems. The retention area on the field shall not have a percolation rate of more than 0.2" per hour (5"/24 hours); or
- 3) **Retention of Runoff in a Holding Area off the Field:** For 6 months post-application, all runoff shall be channeled to a holding area off of 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" per hour (5"/24 hours); or
- 4) **Runoff onto a Fallow Field:** For 6 months post-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 **Crop Protect Direct Sulfen 4SC** 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 groundwater basin), unless this product is applied 6 months or more before the basin is used to recharge groundwater.

Unlined Canals and Ditches

Do not use **Crop Protect Direct Sulfen 4SC** 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 inch per hour (0.002 gallon 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 groundwater 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 Groundwater Protection Areas

Do not use in areas designed by the California Department of Pesticide Regulation as leaching groundwater protection areas* unless either:

- 1) The user does not apply any irrigation water for 6 months following the application of this product; or
- 2) 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

- 3) 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 Groundwater Protection Area or a Leaching Groundwater 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

Application in Combination with Liquid Fertilizers

When applied in combination with a liquid fertilizer **Crop Protect Direct Sulfen 45C** will control listed weeds. Seek local advice for fertilizers best suited to your area (i.e., urea or UAN solutions).

Use Directions for Mixing Crop Protect Direct Sulfen 45C with Herbicides or Liquid Fertilizer Combination

- Prior to combining the liquid fertilizer/herbicide and **Crop Protect Direct Sulfen 45C** in the application tank, carry out a 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).

Combine **Crop Protect Direct Sulfen 45C** and the carrier liquid fertilizer/herbicide as follows:

1. Fill a clean spray tank $\frac{1}{2}$ full of fertilizer solution.
 2. Begin agitation of the fertilizer solution.
 3. Use a clean container to create a slurry of **Crop Protect Direct Sulfen 45C** and water (equal parts of both)*.
 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 **Crop Protect Direct Sulfen 45C**/water slurry must be mixed thoroughly prior to application.
- *For best mixing of the **Crop Protect Direct Sulfen 45C**/water slurry, add the slurry using induction systems on the spray fill plumbing system.

Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates, timings, and other restrictions.

Application Instructions for Crop Protect Direct Sulfen 45C Mixed with Liquid Fertilizers

- The spray application solution must be applied immediately following preparation.
- Maintain agitation throughout mixture and application.
- Do not store spray solution in the spray tank for an extended period of time, or overnight.
- A combination of **Crop Protect Direct Sulfen 45C** and liquid fertilizer must not be premixed in nurse tanks.
- Applicators/sellers of liquid fertilizer must follow State regulations for liquid fertilizers, including those regarding preparation, blending, registration, transportation, selling, treatment, and storage.
- Apply the herbicide solution immediately following mixing.
- Maintain mixing throughout application.
- Do not store spray solution in the spray tank for an extended period of time or overnight.
- A tank mixture containing **Crop Protect Direct Sulfen 45C** must not be premixed in nurse tanks.

Cleaning Application Equipment

Crop injury can occur if residues of **Crop Protect Direct Sulfen 45C** are left in the spray tank following application. Application equipment must be cleaned immediately after treatment with **Crop Protect Direct Sulfen 45C**, and before applications with other products. Use the following cleaning 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 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.
 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.
 9. Dispose of rinsate and excess cleaning solution in compliance with Federal, State, and local regulations and guidelines.
- Do not apply rinsate and cleaning solution to sensitive crops.
 - Do not store spray equipment for any extended period of time with **Crop Protect Direct Sulfen 45C** solution remains in the spray lines, nozzles, strainers, or boom plumbing.
 - Flush the nozzles and spray boom with clean water prior to use when application equipment has been idle or sitting in storage.
 - If small amounts of **Crop Protect Direct Sulfen 45C** remain in the equipment after cleaning, **Crop Protect Direct Sulfen 45C** may be released during later applications, which may cause crop injury to certain crops and/or 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.

MANDATORY SPRAY DRIFT MANAGEMENT

Ground Application

- Utilize a boom and nozzle sprayer equipped with the appropriate nozzles, spray tips and screens and adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures.
- 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 used as a preemergent/preplant application.
- Select medium to very coarse droplet size when used postemergence with a contact burndown herbicide.
- Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE standard).
- Apply a minimum of 10 gallons of finished spray per acre by ground.
- When mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre. Be aware that overlaps and slower ground speeds while starting, stopping or turning while spraying may result in excessive application and subsequent crop response.
- Do not apply when wind speed favors drift beyond the area intended for treatment. Applicators may spray only when wind speed is between 3 and 10 mph.
- For boom spraying, the maximum release height is 30 inches from the soil.

Aerial Application

- Aerial application is allowed only when environmental conditions prohibit ground application.
- When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.
- The maximum release height must be 10 feet from the top of the canopy, unless a greater application height is required for pilot safety.
- 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 used as a preemergent/preplant application. Select medium to very coarse droplet size when used postemergence with a contact burndown herbicide.
- Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE standard).
- Do not apply when wind speed favors drift beyond the area intended for treatment. Applicators may spray only when wind speed is between 3 and 10 mph.

SPRAY DRIFT REDUCTION ADVISORIES

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

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 Droplet Size

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE. Do not exceed the nozzle manufacturer's specified pressures.
- **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 <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 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 affect spray drift.

Temperature and Humidity

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

Temperature Inversions

Applications must 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 temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

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

Off-Target Movement of Crop Protect Direct Sulfen 4SC

Drift of dilute spray mixtures containing Crop Protect Direct Sulfen 4SC 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. Crop Protect Direct Sulfen 4SC can cause significant symptomology by drift on to sensitive crops and other plants. This symptomology may manifest initially as discreet, localized spots where contacted by Crop Protect Direct Sulfen 4SC 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 crops, defoliation of affected foliage could result. Failure to follow these guidelines and environmental prohibitions that then result in off-target movement or drift of Crop Protect Direct Sulfen 4SC on to unintended crops or plants, irrespective of severity, constitutes misapplication of this product. JABCO accepts no responsibility or liability for potential crop effects that may result from such misapplication of Crop Protect Direct Sulfen 4SC.

WEED RESISTANCE MANAGEMENT

For resistance management, **Crop Protect Direct Sulfen 4SC** is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to **Crop Protect Direct Sulfen 4SC** and other Group 14 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance management strategies should be followed.

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

- Rotate the use of **Crop Protect Direct Sulfen 4SC** or other 14 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s)

equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.

- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include:
 - (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
 - (2) a spreading patch of non-controlled plants of a particular weed species;
 - (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact JABCO representative at 702 377 8877.

TURFGRASSES

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

Crop Protect Direct Sulfen 4SC can be used to control broadleaf, grass and sedge weeds in established turfgrasses (seeded, sodded or sprigged). Apply to established turf grasses (good root system; uniform stand) tolerant to **Crop Protect Direct Sulfen 4SC** (see below). A healthy root system is necessary to fill in exposed edges, which are more susceptible to **Crop Protect Direct Sulfen 4SC**.

Tolerant Turf Grasses	
Cool Season Grasses	Rate
Bentgrass, Creeping* Bluegrass, Kentucky (<i>Poa pratensis</i>) Bluegrass, Rough*** (<i>Poa trivialis</i>) Fescue, Fine** (<i>Festuca rubra</i>) Fescue, Tall** (<i>Festuca arundinacea</i>) Ryegrass, Perennial (<i>Lolium perenne</i>)	Apply Crop Protect Direct Sulfen 4SC at 4 - 8 oz. per acre.
* Apply a maximum of 4 oz. Crop Protect Direct Sulfen 4SC to creeping bentgrass. ** An undesirable plant response can occur if applying Crop Protect Direct Sulfen 4SC to certain varieties of Chewings fine fescue or tall fescue.	
Warm Season Grasses	Rate
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 (<i>Cyn bluegrass</i>) St. Augustinegrass*** (<i>Stenotaphrum secundatum</i>)	Apply Crop Protect Direct Sulfen 4SC at 8 - 12 oz. per acre.
***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 Crop Protect Direct Sulfen 4SC . Chemicals, certain cultural practices, disease, mechanical exposure and cultivation and weather can all be causes of stress-weakened turf.	

Not all varieties or cultivars of turf grasses have been tested with **Crop Protect Direct Sulfen 45C**. Consult with university or weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties or cultivars of turfgrass. Prior to treatment on new turfgrass varieties, test response to **Crop Protect Direct Sulfen 45C** 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 **Crop Protect Direct Sulfen 45C**:

Summer Annual Weeds: Apply in early spring, prior to germination of weed seeds.	
Broadleaf Weeds	Grassy Weeds
Black Medic (<i>Medicago lupulina</i>) Common Purslane (<i>Portulaca oleracea</i>) Pigweed, Redroot (<i>Amaranthus retroflexus</i>) Pigweed, Smooth (<i>Amaranthus hybridus</i>) Prostrate Knotweed (<i>Polygonum aviculare</i>) Spurge (<i>Euphorbia</i> spp.) Spurge, prostrate (<i>Euphorbia supine</i>) Spurge, spotted (<i>Euphorbia maculate</i>)	Barnyardgrass (<i>Echinochloa crus-galli</i>) Crabgrass, Large (<i>Digitaria sanguinalis</i>) Crabgrass, Smooth (<i>Digitaria ischaemum</i>) Foxtail, Green (<i>Setaria viridis</i>) Foxtail, Yellow (<i>Setaria glauca</i>) Goosegrass (<i>Eleusine indica</i>)
Winter Annual Weeds: Apply in late summer or early fall.	
Broadleaf Weeds	Grassy Weeds
Buttercups (<i>Ranunculus</i> spp.) Carolina geranium (<i>Geranium carolinianum</i>) Chickweed, common (<i>Stellaria media</i>) Chickweed, mouseear (<i>Cerastium vulgatum</i>) Common groundsel (<i>Senecio vulgaris</i>) Corn Speedwell (<i>Veronica arvensis</i>) Hairy bittercress (<i>Cardamine hirsute</i>) Henbit (<i>Lamium amplexicaule</i>) Knawel (<i>Scleranthus annuus</i>) Large Hop clover (<i>Trifolium campestre</i>) Parsley-piert (<i>Alchemilla microcarpa</i>) Spurweed (<i>Soliva pterosperma</i>) Violet, Johnny-jump-up (<i>Viola rafinesquii</i>)	Annual bluegrass (<i>Poa annua</i>) Annual ryegrass (<i>Lolium multiflorum</i>)

Post-Emergence Weed Control

When applied as indicated on this label, the following weeds in turfgrass will be controlled or suppressed with **Crop Protect Direct Sulfen 45C**:

Broadleaf Weeds	
Bedstraw, catchweed (<i>Galium aparine</i>) Beggarweed, Florida (<i>Desmodium tortuosum</i>) Bittercress (<i>Cardamine</i> spp.) Black Medic (<i>Medicago lupulina</i>) Buttercup (<i>Ranunculus</i> spp.) Carolina Geranium (<i>Geranium carolinianum</i>) Carpetweed (<i>Mollugo verticillata</i>) Chickweed, Common (<i>Stellaria media</i>) Chickweed, Mouseear (<i>Cerastium vulgatum</i>) Cinquefoil (<i>Potentilla</i> spp.) Clover (<i>Trifolium</i> spp.) Copperleaf (<i>Acalypha</i> spp.) Cudweed (<i>Gnaphalium</i> spp.) Dandelion (<i>Taraxacum officinale</i>) Dock, Curly (<i>Rumex crispus</i>) Dollarweed (<i>Hydrocotyle umbellata</i>) Eclipta (<i>Eclipta prostrata</i>) Evening Primrose (<i>Oenothera biennis</i>) Fiddleneck (<i>Amsinckia</i> spp.) Filaree (<i>Erodium</i> spp.) Galinsoga (<i>Galinsoga ciliate</i>) Garlic, Wild (<i>Allium vineale</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>)	Lambsquarters, Common (<i>Chenopodium album</i>) Lawn Burweed (Spurweed) (<i>Soliva pterosperma</i>) Lespedeza, Common (<i>Lespedeza striata</i>) Mallow, Common (<i>Malva neglecta</i>) Onion, Wild (<i>Allium canadense</i>) Parsley-piert (<i>Alchemilla arvensis</i>) Pigweed, Redroot (<i>Amaranthus retroflexus</i>) Pigweed, Smooth (<i>Amaranthus hybridus</i>) Pigweed, Tumble (<i>Amaranthus albus</i>) Pineapple Weed (<i>Matricaria matricarioides</i>) Plantain, Buckhorn (<i>Plantago lanceolata</i>) Puncture Weed (<i>Tribulus terrestris</i>) Purslane, Common (<i>Portulaca oleracea</i>) Pusley, Florida (<i>Richardia scabra</i>) Red weed (<i>Melochia corchorifolia</i>) Rocket, London (<i>Sisymbrium irio</i>) Shepherd's Purse (<i>Capsella bursa pastoris</i>) Smartweed, Pennsylvania (<i>Polygonum Pensylvanicum</i>) Sorrel, Red (<i>Rumex acetosella</i>) Speedwell (<i>Veronica</i> spp.) Spurge, Annual (<i>Euphorbia</i> spp.) Spurge, Prostrate (<i>Euphorbia humistrata</i>) Spurge, Spotted (<i>Euphorbia maculata</i>) Star of Bethlehem (<i>Ornithogalum umbellatum</i>) Velvetleaf (<i>Abutilon theophrasti</i>) Violet, Johnny-jump-up (<i>Viola rafinesquii</i>) Violet, Wild (<i>Viola pratincola</i>)

Knotweed, Prostrate (<i>Polygonum aviculare</i>) Kochia (<i>Kochia scoparia</i>)	Woodsorrel, Creeping (<i>Oxalis corniculata</i>) Woodsorrel, Yellow (<i>Oxalis stricta</i>)
Grassy Weeds	
Goosegrass (<i>Eleusine indica</i>)	
Sedges	
Kyllinga, False Green (<i>Kyllinga gracillima</i>)	Sedge, Cylindrical (<i>Cyperus retrorsus</i>)
Kyllinga, Green (<i>Kyllinga brevifolia</i>)	Sedge, Globe (<i>Cyperus globulosus</i>)
Nutsedge, Purple (<i>Cyperus rotundus</i>)*	Sedge, Surinam (<i>Cyperus surinamensis</i>)
Nutsedge, Yellow (<i>Cyperus esculentus</i>)	Sedge, Texas (<i>Cyperus polystachyos</i>)
<p>*NOTE: Split applications give optimum control of purple nutsedge. When actively growing purple nutsedge is evident, apply as indicated below:</p> <p>Cool season grasses: 2 - 4 fl. oz. Crop Protect Direct Sulfen 4SC 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).</p> <p>Warm season grasses: 6 - 8 fl. oz. Crop Protect Direct Sulfen 4SC 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).</p> <ul style="list-style-type: none"> Observe maximum rate per acre based on turf variety, as indicated above. Allow 35 days between applications. 	

Application Instructions

Apply **Crop Protect Direct Sulfen 4SC** at specified rates to control or suppress indicated weeds. Optimal control is achieved with grassy weeds when **Crop Protect Direct Sulfen 4SC** is applied to grasses that 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 **Crop Protect Direct Sulfen 4SC** applications. Best results are obtained from waiting at least 1 month after **Crop Protect Direct Sulfen 4SC** application before sprigging, overseeding or reseeding. If slight plant response can be tolerated, overseeding of Bermudagrass with perennial ryegrass can be done between 2-4 weeks after **Crop Protect Direct Sulfen 4SC** 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 **Crop Protect Direct Sulfen 4SC** 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.

Applying **Crop Protect Direct Sulfen 4SC** with adjuvants or surfactants can cause short-term discoloration of some turf species, and is therefore not recommended for use with adjuvants or surfactants unless the adjuvant/surfactant has been proven to be safe to use with sulfentrazone.

Application Instructions

- Establish sod production areas for 3 months before applying **Crop Protect Direct Sulfen 4SC**.
- Use of **Crop Protect Direct Sulfen 4SC** mixed with or applied within 7 days of herbicides containing the active ingredient trinexapac-ethyl can result in temporary turfgrass discoloration. Applying **Crop Protect Direct Sulfen 4SC** and trinexapac-ethyl herbicides 7 or more days apart decreases possibility of discoloration.

Turfgrass Restrictions

- Pre-harvest interval (PHI): 3 months.
- Do not apply more than 12.0 fl. oz. (0.375 lb. a.i./acre) per acre per 12 month-period. The 12 month-period starts at the point of first application.
- Do not apply more than 12.0 fl oz/A (0.375 lb ai/A) in a single application.
- Do not apply more than three applications per year when using reduced application rate equal to or less than 4.0 fl oz/A of this product.
- Do not apply to ornamental beds or landscape ornamental plants.
- Do not use **Crop Protect Direct Sulfen 4SC** with surfactants unless the surfactant/sulfentrazone combination has been proven safe and effective for a particular turf variety.
- Do not feed forage or allow grazing of turf treated with **Crop Protect Direct Sulfen 4SC**.
- Do not apply **Crop Protect Direct Sulfen 4SC** to tees or putting greens on golf courses.
- Do not harvest sod within three (3) months of **Crop Protect Direct Sulfen 4SC** application.

- Do not apply to frozen soils or existing snow cover to prevent **Crop Protect Direct Sulfen 4SC** Herbicide runoff from rain or snowmelt that may occur following application.

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

Crop Protect Direct Sulfen 4SC will control susceptible weeds, maintain bare ground and complete vegetation control, and provide residual control of germinating weeds in noncropland areas. When applied as indicated on this label, the following weeds will be controlled with **Crop Protect Direct Sulfen 4SC**:

Beggarweed, Florida (<i>Desmodium tortuosum</i>)	Lambsquarters, Common (<i>Chenopodium album</i>)
Carpetweed (<i>Mollugo verticillata</i>)	Lettuce, Wild (<i>Lactuca virosa</i>)
Chickweed, Common (<i>Stellaria media</i>)	Mallow, Common (<i>Malva neglecta</i>)
Copperleaf Hophornbeam (<i>Acalypha ostryifolia</i>)	Mexicanweed (<i>Caperonia castanifolia</i>)
Crabgrass species (<i>Digitaria</i> spp.)	Milkweed, Honeyvine (<i>Ampelamus albidus</i>)
Croton, Tropic (<i>Cretan glandulosus</i>)	Morningglory species (<i>Ipomoea</i> spp.)
Daisy, American (<i>Coreopsis grandiflora</i>)	Mustard species (<i>Brassica</i> spp.)
Dayflower, Common (<i>Commelina communis</i>)	Nightshade species (<i>Solanum</i> spp.)
Dayflower, Virginia (<i>Commelina virginica</i>)	Nutsedge species (<i>Cyperus</i> spp.)
Dock, Curly (<i>Rumex crispus</i>)	Palmer Amaranth (<i>Amaranthus palmeri</i>)
Fixweed (<i>Descurainia sophia</i>)	Pigweed, Redroot (<i>Amaranthus retroflexus</i>)
Galinsoga, Hairy (<i>Galinsoga ciliata</i>)	Pigweed, Smooth (<i>Amaranthus hybridus</i>)
Groundcherry, Clammy (seedling) (<i>Physalis heterophylla</i>)	Texasweed (<i>Caperonia palustris</i>)
Groundcherry, Cutleaf (<i>Physalis angulata</i>)	Thistle, Russian (<i>Salsola iberica</i>)
Jimsonweed (<i>Datura stramonium</i>)	Waterhemp, Common (<i>Amaranthus rudis</i>)
Kochia (<i>Kochia scoparia</i>)	Waterhemp, Tall (<i>Amaranthus tuberculatus</i>)
ALS/Triazine-resistant Kochia (<i>Kochia scoparia</i>)	

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 within the specified rate range:

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

Do not use on soils with less than 1% organic matter (sandy soils).

Tank Mixes

Tank mix **Crop Protect Direct Sulfen 4SC** with burndown herbicides (including 2,4-D, dicamba, diquat, glyphosate, glyphosate trimesium). Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.

Adjuvants recommended for tank mix partner can be used.

Restrictions

- 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.
- Do not apply more than 12.0 fl. oz. sulfentrazone (0.375 lb. a.i./acre) per acre per 12-month period. The 12-month period starts at the point of first application.
- Do not graze or feed forage harvested from Crop Protect Direct Sulfen 4SC Herbicide treated areas.
- Do not apply to landscape ornamental plants or ornamental beds.
- Do not apply more than 12.0 fl oz/A (0.375 lb ai/A) in a single application.
- Do not apply more than three applications per year when using reduced application rate equal to or less than 4.0 fl oz/A of this product.
- Do not apply to frozen soils or existing snow cover to prevent **Crop Protect Direct Sulfen 4SC** Herbicide runoff from rain or snowmelt that may occur following application.

STORAGE AND DISPOSAL

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

Pesticide Storage

STORE ABOVE -4°F TO KEEP PRODUCT FROM FREEZING. If frozen, thaw before use. Observe recirculation directions under Mixing and Handling Instructions for Bulk/Mini-Bulk Containers. Keep out of reach of children and animals. Store in original containers only. Store in a dry place. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. To confine spill: Dike surrounding area or absorb with sand, cat litter or commercial clay. Place damaged package in a holding container. Identify contents.

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. 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 [Non-Refillable Plastic Containers ≤5 gal] Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Container Handling [Non-Refillable Plastic Containers >5 gal] Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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. Turn the container over onto its other 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. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration.

[Nonrefillable Plastic (e.g., Intermediate Bulk Containers [IBC]) (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down)] Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into formulation equipment and before final disposal using the following pressure rinsing procedure: Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure spray duration and/or spray volume. If the manufacturer's instructions are not available pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain pour or pump rinsate into formulation equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Container Handling [For Bulk and Mini-Bulk Containers] Refillable container. Refill this container with pesticide only. Do not use 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 person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by State and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

WARRANTY AND DISCLAIMER STATEMENT

JABCO, LLC, warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use herein described when used in accordance with the directions for use. The Directions For Use are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with 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 JABCO, LLC, or the SELLER. To the extent consistent with applicable law, JABCO, LLC., shall not be liable for the consequential, special or indirect damages resulting from the handling or use of this product. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

Except as expressly provided herein, JABCO, LLC, makes no warranties, guarantees, or representations of any kind, either express or implied, or by usage of trade, statutory or otherwise, with regard to the product sold, including but not limited to, merchantability, fitness for a particular purpose, use or eligibility of the product for any particular trade usage

All trademarks are the property of their respective owners.

Pages 45-74 - Sub-Label C:

SULFENTRAZONE	GROUP	14	HERBICIDE
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Crop Protect Direct Sulfen 4SC

ABN: Crop Protect Direct Sulfen 4SC Herbicide

Agricultural Uses

Asparagus, Berries (Crop Group 13-07), Brassica (Head & Stem), Brassica (Leafy Greens), Cabbage (Transplanted Only), Citrus (Crop Group 10), Corn (Field, Seed, Pop), Beans & Peas (Dry Shelled), Flax, Fruiting Vegetables (except cucurbits), Okra, Grapes, Horseradish, Lima Beans (succulent), Melons, Mint, Peanuts, Potatoes, Rhubarb, Soybean, Peas (Succulent), Sugarcane, Sunflower, Tobacco, Tomato, Tree Nuts, Turnips, Wheat (Spring), Vegetable Soybean (Edamame)

ACTIVE INGREDIENT:

Sulfentrazone: N-{2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazole-1-yl]phenyl}methanesulfonamide

WT. BY %

..... 39.6%

OTHER INGREDIENTS: 60.4%

TOTAL: 100.0%

It is a Suspension Concentrate, Contains 4.0 lbs. active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCIÓN

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

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • 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.
EMERGENCY NUMBERS	
Emergency - You may also contact the Poison Control Center at 1-800-222-1222 for emergency medical treatment information. Non-emergency-National Pesticides Information Center (NPIC) : 1-800-858-7378, Monday through Friday, 8 AM to 12 PM PST, or at http://npic.orst.edu . For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)	

[Optional referral statements when booklets and container labels are used:

See Panel for First Aid Instructions and booklet for complete Precautionary Statements and Directions for Use.

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

See label booklet for additional Precautionary Statements, Directions For Use, and Storage and Disposal.

See label booklet for complete Directions For Use.]

Manufactured [For/by]:

JABCO, LLC

550 W Pioneer Blvd, Suite 140

Mesquite, NV 89027.

EPA Reg. No. 101458-18

EPA Est.: _____

Net Contents: _____ [Gallons/Liters]

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, polyethylene, polyvinyl chloride ≥14 mils, or Viton® ≥14 mils
- Shoes plus socks

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands thoroughly after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

Do not apply this product through any type of irrigation system. 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.

DO NOT exceed specified label rates listed in this label. Refer to the directions for use for maximum use rates for specific crops. Calculate the 12-month period for the purpose of maximum use rates from the time that this product is first applied.

FOR ALL TANK MIXTURES: It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

ENVIRONMENTAL HAZARDS

This product 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 run off may be hazardous to terrestrial and aquatic plants adjacent to treated areas. Do not apply when weather conditions favor drift from the area treated. Do not apply where runoff is likely to occur. Do not contaminate water when disposing of equipment washwaters. Apply this product only as specified on this label.

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 this product on coarse soils, such as sand, which has 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 months post application. These include poorly draining or wet soils with readily visible slopes towards adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filler strips, and areas over-lying tile drainage systems that drain to surface waters.

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
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, polyethylene, polyvinyl chloride ≥14 mils, or Viton® ≥14 mils
- 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.

Do not enter or allow others to enter treated areas until sprays have dried.

PRODUCT INFORMATION

Crop Protect Direct Sulfen 4SC is a soil-applied selective herbicide that controls specific grasses, sedges, and broadleaf weeds. Sulfentrazone, the active ingredient in this product, inhibits a plant enzyme that is required for producing chlorophyll. Disabling this enzyme causes the release of singlet oxygen (O) that disrupts cellular membranes, causing cell leakage and cell death, which ultimately results in weed death.

PROPER HANDLING INSTRUCTIONS

Restrictions:

- Do not mix or load **Crop Protect Direct Sulfen 4SC** within 50 feet of any well, including abandoned wells, 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 wells and does not apply to impervious pads or properly diked mixing/loading areas.
- Do not apply this product through any type of irrigation system. Do not use flood irrigation to apply or incorporate this product.

Operations that involve mixing, loading, rinsing, or washing to **Crop Protect Direct Sulfen 4SC** into or from pesticide handling or application equipment or container 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 washwater 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 a minimum of 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 excluded 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.

Crop Protect Direct Sulfen 4SC must be used in a manner which will prevent back siphoning in wells, spills, or improper disposal of excess pesticide, spray mixtures or rinsates.

APPLICATION INSTRUCTIONS

See the crop specific instructions below for additional use precautions/restrictions.

Apply **Crop Protect Direct Sulfen 4SC** as a surface application, pre-emergence treatment before crop/weed emergence, or incorporated into the soil prior to planting. **Crop Protect Direct Sulfen 4SC** can also be applied post-plant application, over-the-top, and layby.

Incorporated Treatment Prior to Planting

Crop Protect Direct Sulfen 4SC must be incorporated using a uniform surface application to a maximum depth of 2". Reduced control will occur if incorporated to a depth greater than 2". Be careful to ensure that there is no overlap between treated areas due to soil movement, or crop injury may occur.

Soil Applied/Post-Plant Treatments

Crop Protect Direct Sulfen 4SC must be activated by moisture if making soil/post-plant treatments. The amount of moisture required depends on the soil type, amount of organic matter present, tilth, and existing soil moisture.

0.5-1.0" of irrigation or rainfall is required 7-10 days post-application. If 0.5-1.0" of moisture is not obtained, incorporate in shallow soil to obtain adequate control of target species. Moisture activation can be delayed for 10-14 days depending on soil type, amount of organic matter present, tilth, and existing soil moisture. If moisture activation is delayed, control may be reduced.

Crop Protect Direct Sulfen 4SC will control listed weed species when activated. The level of control depends on the size and type of weed species. Control of listed germinating weeds will be reduced when rain or irrigation follows a period of dry weather.

Make **Crop Protect Direct Sulfen 4SC** application before the germination of crop seeds in order to avoid damage to emerging seedlings. Crop injury can occur if treatment is delayed; seeds are germinating, and are close to the soil surface.

Surface Applications

If activation has not been triggered by rainfall or irrigation within 10 days of treatment, make a shallow incorporated treatment (<2") in order to control germinating weed species. Soil incorporation will facilitate **Crop Protect Direct Sulfen 4SC** activation with existing soil moisture.

If there are drought conditions or prolonged periods when rain/irrigation is not possible, do not use **Crop Protect Direct Sulfen 4SC**, and consider another weed control method.

Post-Plant Treatments must be made precisely according to crop specific directions.

Lay-By/Over-The-Top applications control listed weed species through contact and residual control (depending on weed species).

Surfactant use can improve weed control and/or increase the likelihood of crop injury.

Certain crops will respond differently to **Crop Protect Direct Sulfen 4SC** applications depending on use rate, specific crop species sensitivity, and the composition of the soil.

Seedlings and germinating seeds absorb **Crop Protect Direct Sulfen 4SC** from the soil solution. The amount of active ingredient present in the soil depends on the soil type, pH, and the amount of organic matter present.

Crop Protect Direct Sulfen 4SC is absorbed by organic matter and clay parts of soils. This absorption reduces the amount of active ingredient available for weed uptake. Clay content in soil tends to increase as the soil gets finer. Crop use directions are indicated per soil types. Refer to the following chart to determine the category of a particular soil type.

Coarse Soil	Sand, loamy sand, sandy loam
Medium Soil	Sandy clay loam, sandy clay, loam, silt loam, silt
Fine Soil	Silty clay loam, Silty clay, clay loam, clay

The amount of organic matter in soils varies within soil classifications. A detailed soil analysis is required to make an accurate assessment of the amount of organic matter in the soil.

The amount of sulfentrazone available for weed uptake increases as the soil pH increases. Take soil samples to accurately determine soil pH. The use of alkaline water will increase the amount of available sulfentrazone for weed uptake. However, if irrigation water pH is >7.5 crop injury can occur. The likelihood of crop injury due to high soil pH decreases as the plant grows.

Use rates for **Crop Protect Direct Sulfen 4SC** are determined by the timing of application, the amount of activating moisture (rainfall/irrigation), soil characteristics, and soil pH.

Crop specific use rates for each crop are based on soil type, amount of organic matter in soil, and soil/pH interaction.

Aerial Application Instructions

Make **Crop Protect Direct Sulfen 4SC** applications with appropriate nozzles that provide optimal coverage and minimize drift and keep fine droplets to a minimum. Apply **Crop Protect Direct Sulfen 4SC** in a volume that is appropriate to provide sufficient coverage. Use a minimum spray volume of 5 gallons per acre. **Do not** make a **Crop Protect Direct Sulfen 4SC** application when the wind speed is likely to cause the product to drift outside the target area.

Aerial Application Restrictions

- Aerial application is allowed only when environmental conditions prohibit ground application. Aerial application will be allowed when the field is too wet to safely apply pesticides using ground equipment.
- When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.
- 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.

Ground Application Instructions

Make **Crop Protect Direct Sulfen 4SC** application with a boom and nozzle sprayer that contains the appropriate spray tips, screens, and nozzles. Calibrate application equipment for optimal coverage and spray distribution at the appropriate pressure. Use spray nozzles designed to minimize drift and keep fine spray droplets to a minimum. Make **Crop Protect Direct Sulfen 4SC** application in a minimum spray volume of 10 gallons per acre. Overlapping treatment areas can injure crops. When starting, turning or stopping, slower ground speed of the application equipment can lead to crop injury. **Do not** make a **Crop Protect Direct Sulfen 4SC** application when the wind speed is likely to cause the product to drift outside the target area.

CALIFORNIA SPECIFIC RESTRICTIONS

Runoff Groundwater Protection Areas: Do not apply **Crop Protect Direct Sulfen 45C** in areas defined by the California Department of Pesticide Regulation as being "runoff groundwater protection areas*" unless one of the following management practices can be met:

- 1) **Soil Disturbance:** The treated soil is distributed within 7 days of application using a disc, harrow, rotary tiller or other mechanical device. This subsection does not apply to the area to be treated that is immediately adjacent to the crop row and that does not exceed 33% of the distance between crop row or in citrus, to the band from the tree row to the dripline; or
- 2) **Pesticide Incorporation:** The pesticide shall be incorporated on 90% of the area treated within 48 hours of application using disc, harrow, rotary tiller or other mechanical device, or by sprinkler/low-flow irrigation (including chemigation where allowed by the label), using ¼" - 1" irrigation water as described in the **APPLICATION INSTRUCTIONS**, at application rates that do not cause surface water runoff from the treated property or to wells on the treated property; or
- 3) **Band Treatment:** This product is applied as a band treatment immediately adjacent to the crop row so that no more than 33% of the distance between rows is treated, or, in citrus, not more than the area from the tree row to the dripline is treated; or
- 4) **Timing of Application:** This product is applied between April 1st and July 31st; or
- 5) **Retention of Runoff on Field:** For 6 months post-application the field shall be designed to retain all irrigation runoff and all precipitation on, and drainage through the field by berms, levees, or non-draining circulation systems. The retention area on the field shall not have a percolation rate of more than 0.2" per hour (5"/24 hours); or
- 6) **Retention of Runoff in a Holding Area off the Field:** For 6 months post-application, all runoff shall be channeled to a holding area off of 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" per hour (5"/24 hours); or
- 7) **Runoff onto a Fallow Field:** For 6 months post-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.

Leaching Groundwater Protection Areas

Do not use in areas designed by the California Department of Pesticide Regulation as leaching groundwater protection areas* unless either:

- 1) The user does not apply any irrigation water for 6 months following the application of this product; or
- 2) 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
- 3) 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 Groundwater Protection Area or a Leaching Groundwater 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

Application in Combination with Dry Fertilizers

Crop Protect Direct Sulfen 45C can be impregnated with and applied in conjunction with a dry bulk fertilizer. Apply **Crop Protect Direct Sulfen 45C** and dry bulk fertilizer with ground application equipment. Do not make aerial applications of **Crop Protect Direct Sulfen 45C** in combination with dry bulk fertilizer. Follow State regulations in the preparation of **Crop Protect Direct Sulfen 45C**/fertilizer combinations, including mixture preparation, storage, transportation, selling, and treatment.

Directions for Dry Bulk Fertilizer Impregnation

Use the following method for impregnation:

1. Ensure that spray nozzles are calibrated and positioned for uniform **Crop Protect Direct Sulfen 45C** coverage of the dry fertilizer during the mixture process.
2. Make a slurry with **Crop Protect Direct Sulfen 45C** and water in a clean container.
3. Once made, add the **Crop Protect Direct Sulfen 45C**/water slurry to the impregnation spray tank.
4. Finish the solution by adding water as required.

Use a dry bulk fertilizer blender such as a closed rotary-drum mixer that is fitted with appropriate spray application equipment. See the **Cleaning Application Equipment** section below prior to cleaning equipment used for impregnation, transportation, loading, and application of the **Crop Protect Direct Sulfen 45C**/dry fertilizer combination. Do not attempt to impregnate coated ammonium nitrate or limestone with **Crop Protect Direct Sulfen 45C** as neither can absorb the herbicide.

Application Instructions for Crop Protect Direct Sulfen 45C Impregnated Dry Fertilizers

Dry fertilizer impregnated with **Crop Protect Direct Sulfen 45C** must be applied using a dry fertilizer spreader. The application equipment must be correctly calibrated for sufficient and uniform coverage of the soil surface. If treatment is not uniform, some areas may go untreated which may cause reduced control of target species. Avoid overlapping applications, which may cause labeled use rates to be exceeded, and may cause adverse crop response. Apply the dry fertilizer/**Crop Protect Direct Sulfen 45C** combination at a rate of 200 lbs. impregnated dry bulk fertilizer per acre in order to provide sufficient soil coverage. See the specific crop use instructions for the specified rate of **Crop Protect Direct Sulfen 45C** per acre. Use the following equation to calculate the amount of **Crop Protect Direct Sulfen 45C** that must be used to impregnate 2,000 lbs. (one ton) of dry bulk fertilizer:

$$\text{Fl. Oz. of Crop Protect Direct Sulfen 4SC to be Applied/Ton of Dry Bulk Fertilizer} = \text{Fl. Oz. of Crop Protect Direct Sulfen 4SC} \times 2,000 \div \text{Lbs. Dry Bulk Fertilizer Applied/Acre}$$

Example 1: If use rate of **Crop Protect Direct Sulfen 4SC** is 8 fl. oz. per acre, and 200 lbs. fertilizer will be applied per acre:

(8) (2,000/200) = 80 fl. oz. of **Crop Protect Direct Sulfen 4SC** per ton of dry bulk fertilizer.

Example 2: If use rate of **Crop Protect Direct Sulfen 4SC** is 12 fl. oz. per acre and 400 lbs. fertilizer will be applied per acre:

(12) (2,000/400) = 60 fl. oz. **Crop Protect Direct Sulfen 4SC** per ton of dry bulk fertilizer.

Application in Combination with Liquid Fertilizers

When applied in combination with a liquid fertilizer **Crop Protect Direct Sulfen 4SC** will control listed weeds. Sufficient soil coverage is critical to control target weeds. Fertilizer solutions that are used as a carrier for **Crop Protect Direct Sulfen 4SC** may be concentrated formulations as blended or diluted in water.

Use Directions for Liquid Fertilizer Combination

- The selected spray system must have the spray capacity to allow uniform application of the treatment solution, and must be capable of maintaining agitation in the spray tank throughout the mixture and application procedures.
- Some spray application systems might need separate pumps to apply the solution and maintain agitation at the same time.
- Prior to combining the liquid fertilizer and **Crop Protect Direct Sulfen 4SC** in the application tank, carry out a 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).
- Combine **Crop Protect Direct Sulfen 4SC** and the carrier liquid fertilizer as follows:
 - Fill a clean spray tank ½ full of fertilizer solution.
 - Begin agitation of the fertilizer solution.
 - Use a clean container to create a slurry of **Crop Protect Direct Sulfen 4SC** and water (equal parts of both)*.
 - Add the slurry slowly to the spray tank, continuing agitation throughout.
 - Rinse the slurry mix container and add rinsate solution to spray tank.
 - Finish filling spray tank to required level.
 - Maintain agitation throughout. The **Crop Protect Direct Sulfen 4SC**/water slurry must be mixed thoroughly prior to application.

*For best mixing of the **Crop Protect Direct Sulfen 4SC**/water slurry, add the slurry using induction systems on the spray fill plumbing system.

Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates, timings, and other restrictions.

Application Instructions for Crop Protect Direct Sulfen 4SC Mixed with Liquid Fertilizers

- The spray application solution must be applied immediately following preparation.
- Maintain agitation throughout mixture and application.
- Do not store spray solution in the spray tank for an extended period of time, or overnight.
- A combination of **Crop Protect Direct Sulfen 4SC** and liquid fertilizer must not be premixed in nurse tanks.
- Applicators/sellers of liquid fertilizer must follow State regulations for liquid fertilizers, including those regarding preparation, blending, registration, transportation, selling, treatment, and storage.

Band Treatment Applications

Crop Protect Direct Sulfen 4SC can be applied as a banded treatment application. When calculating rates for band treatment, apply the equivalent volume per acre for broadcast treatment by using the following equation:

$$\text{Band Rate or Volume} = \frac{\text{Broadcast Rate (Fl. Oz./Acre) or Volume Per Acre}}{\text{Volume Per Acre}} \times \text{Band Width (In Inches)} \div \text{Row Width (In Inches)}$$

Mixing and Loading Instructions

- Crop Protect Direct Sulfen 4SC** 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 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, timings, and other restrictions.
- Spray equipment must be clean and free of product residue prior to mixing an application solution of **Crop Protect Direct Sulfen 4SC**. Refer to the cleaning directions below and to the cleaning directions of the product(s) previously applied.
- Mix **Crop Protect Direct Sulfen 4SC** as follows:
 - Fill a clean spray tank ½ full of water required for treatment.
 - Begin agitation.
 - Use a clean container to create a slurry of **Crop Protect Direct Sulfen 4SC** 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 **Crop Protect Direct Sulfen 4SC**/water slurry must be mixed thoroughly prior to application.

*For best mixing of the **Crop Protect Direct Sulfen 4SC**/water slurry, add the slurry using induction systems on the spray fill plumbing system.

- Apply the herbicide solution immediately following mixing.
- Maintain mixing throughout application.
- Do not store spray solution in the spray tank for an extended period of time or overnight.
- A tank mixture containing **Crop Protect Direct Sulfen 4SC** must not be premixed in nurse tanks.

Cleaning Application Equipment

Crop injury can occur if residues of **Crop Protect Direct Sulfen 4SC** are left in the spray tank following application. Application equipment must be cleaned immediately after treatment with **Crop Protect Direct Sulfen 4SC**, and before applications with other products. Use the following cleaning 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 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.
 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.
 9. Dispose of rinsate and excess cleaning solution in compliance with Federal, State, and local regulations and guidelines.
- Do not apply rinsate and cleaning solution to sensitive crops.
 - Do not store spray equipment for any extended period of time with **Crop Protect Direct Sulfen 4SC** solution remains in the spray lines, nozzles, strainers, or boom plumbing.
 - Flush the nozzles and spray boom with clean water prior to use when application equipment has been idle or sitting in storage.
 - If small amounts of **Crop Protect Direct Sulfen 4SC** remain in the equipment after cleaning, **Crop Protect Direct Sulfen 4SC** may be released during later applications, which may cause crop injury to certain crops and/or 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.

MANDATORY SPRAY DRIFT MANAGEMENT**Ground Application**

- Utilize a boom and nozzle sprayer equipped with the appropriate nozzles, spray tips and screens and adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures.
- 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 used as a preemergent/preplant application.
- Select medium to very coarse droplet size when used postemergence with a contact burndown herbicide.
- Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE standard).
- Apply a minimum of 10 gallons of finished spray per acre by ground.
- When mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre. Be aware that overlaps and slower ground speeds while starting, stopping or turning while spraying may result in excessive application and subsequent crop response.
- Do not apply when wind speed favors drift beyond the area intended for treatment. Applicators may spray only when wind speed is between 3 and 10 mph.
- For boom spraying, the maximum release height is 30 inches from the soil.

Aerial Application

- Aerial application is allowed only when environmental conditions prohibit ground application.
- When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.
- The maximum release height must be 10 feet from the top of the canopy, unless a greater application height is required for pilot safety.
- 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 used as a preemergent/preplant application. Select medium to very coarse droplet size when used postemergence with a contact burndown herbicide.
- Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE standard).
- Do not apply when wind speed favors drift beyond the area intended for treatment. Applicators may spray only when wind speed is between 3 and 10 mph.

SPRAY DRIFT REDUCTION ADVISORIES

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

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 Droplet Size

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE. Do not exceed the nozzle manufacturer's specified pressures.
- **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 <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 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 affect spray drift.

Temperature and Humidity

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

Temperature Inversions

Applications must 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 temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

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

Off-Target Movement of Crop Protect Direct Sulfen 4SC

Drift of dilute spray mixtures containing Crop Protect Direct Sulfen 4SC 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. Crop Protect Direct Sulfen 4SC can cause significant symptomology by drift on to sensitive crops and other plants. This symptomology may manifest initially as discreet, localized spots where contacted by Crop Protect Direct Sulfen 4SC 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 crops, defoliation of affected foliage could result. Failure to follow these guidelines and environmental prohibitions that then result in off-target movement or drift of Crop Protect Direct Sulfen 4SC on to unintended crops or plants, irrespective of severity, constitutes misapplication of this product. JABCO accepts no responsibility or liability for potential crop effects that may result from such misapplication of Crop Protect Direct Sulfen 4SC.

WEED RESISTANCE MANAGEMENT

For resistance management, **Crop Protect Direct Sulfen 4SC** is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to **Crop Protect Direct Sulfen 4SC** and other Group 14 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance management strategies should be followed.

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

- Rotate the use of **Crop Protect Direct Sulfen 4SC** or other 14 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s)

equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.

- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include:
 - (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
 - (2) a spreading patch of non-controlled plants of a particular weed species;
 - (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact JABCO representative at 702 377 8877.

REPLANTING AND ROTATIONAL CROPS

When replanting, keep soil tillage to a minimum to preserve the herbicide barrier.

If planting of the crops listed does not produce a stand, only plant crops specified in this label or the tank mix partner may be planted. Where there is a tank mixture, the most restrictive label directions must be followed.

The planted area must not be retreated with **Crop Protect Direct Sulfen 4SC** or any other product containing sulfentrazone.

Do not plant crops in previously treated areas unless in full compliance with the Rotational Crop Restrictions below.

Refer to the table below for the minimum interval from the time **Crop Protect Direct Sulfen 4SC** was last applied until treated areas can be replanted with listed crops.

Crop	Minimum Rotational Interval (Months)
Barley, Rye, Triticale, Wheat	4
Corn (Field), Rice, Sorghum*	10
Alfalfa, Cereal Grains (Buckwheat, Oats, Pearl Millet, Proso Millet, Teosinte, Wild Rice), Sweet Potatoes	12
Corn (Pop & Sweet), Cotton	18
Canola	24
Sugar Beets	36
Asparagus, Berries, Brassica (head & stem) (Broccoli & Cabbage), Brassica (leafy vegetables), Citrus, Cowpea (succulent – TN only), Dry Shell Peas and Beans, Flax, Fruiting Vegetables (except cucurbits), Okra, Grapes, Horseradish, Lima Beans (succulent – TN only), Melons, Mint, Peanuts, Potato, Rhubarb, Soybean, Strawberry, Succulent Peas, Sugarcane, Sunflower subgroup 20B, Tobacco, Tree nuts, Turf, Turnips, Wheat (spring-Pacific Northwest states ID, OR, WA only)	Anytime
*18-month minimum rotation interval for sorghum where use rates are greater than 8 oz. of Crop Protect Direct Sulfen 4SC per acre. <ul style="list-style-type: none"> • Certain crops have a rotational interval of longer than 12 months due to sensitivity and risk of crop injury. Carry out a representative bioassay of the target area on the rotational crop in order to assess the crop's sensitivity to applications of Crop Protect Direct Sulfen 4SC. • For all crops not listed in the table above, there must be a minimum rotational interval of 12 months. 	

- When this product is tank mixed with another product(s), read and follow the directions for all tank mix partners. The most restrictive directions must apply, including directions for re-cropping.

When applied in accordance with label directions (alone or in tank mixture), **Crop Protect Direct Sulfen 4SC** will control the following weed species (refer to crop specific directions for additional information):

SCIENTIFIC NAME	COMMON NAME
<i>Amaranthus lividus</i>	Amaranth, Livid
<i>Amaranthus palmeri</i>	Amaranth, Palmer
<i>Amaranthus Powellii</i>	Amaranth, Powell
<i>Amaranthus spinosus</i>	Amaranth, Spiny
<i>Amaranthus dubius</i>	Amaranth, Spleen
<i>Anoda cristata</i>	Anoda, Spurred
<i>Echinochloa crus-galli</i>	Barnyardgrass, Common
<i>Galium aparine</i>	Bedstraw, Catchweed
<i>Convolvulus arvensis</i>	Bindweed, Field
<i>Poa annua</i>	Bluegrass, Annual
<i>Bromus</i> spp.	Bromegrass species
<i>Medicago polymorpha</i>	Burclover, California
<i>Mollugo verticillata</i>	Carpetweed
<i>Bromus tectorum</i>	Cheatgrass
<i>Malva</i> spp.	Cheeseweed species
<i>Stellaria media</i>	Chickweed, Common
<i>Trifolium</i> spp.	Clover species
<i>Acalypha ostryifolia</i>	Copperleaf, Hophornbeam
<i>Acalypha virginica</i>	Copperleaf, Virginia
<i>Digitaria sanguinalis</i>	Crabgrass, Large
<i>Digitaria ischaemum</i>	Crabgrass, Smooth
<i>Digitaria ciliaris</i>	Crabgrass, Southern
<i>Croton glandulosus</i>	Croton, Tropic
<i>Verbesina encelioides</i>	Crownbeard, Golden
<i>Eriochloa villosa</i>	Cupgrass, Woolly
<i>Cyperus compressus</i>	Cyperus, Hedgehog
<i>Eclipta alba</i>	Daisy, American
<i>Proboscidea Louisiana</i>	Devils Claw
<i>Rumex crispus</i>	Dock, Curly
<i>Eclipta prostrata</i>	Eclipta
<i>Oenothera laciniata</i>	Evening Primrose, Cutleaf
<i>Fetuca rubra</i>	Fescue, Red
<i>Amsinckia</i> spp.	Fiddleneck species
<i>Erodium botrys</i>	Filaree, Broadleaf
<i>Erodium cicutarium</i>	Filaree, Redstem
<i>Erodium moschatum</i>	Filaree, Whitestem
<i>Conyza bonariensis</i>	Fleabane, Hairy
<i>Descurainia Sophia</i>	Flixweed
<i>Setaria verticillata</i>	Foxtail, Bristly
<i>Setaria faberi</i>	Foxtail, Giant
<i>Setaria viridis</i>	Foxtail, Green
<i>Setaria glauca</i>	Foxtail, Yellow
<i>Galinsoga ciliate</i>	Galinsoga, Hairy
<i>Eleusine indica</i>	Goosegrass
<i>Chenopodium murale</i>	Goosefoot, Nettleleaf
<i>Physalis heterophylla</i>	Groundcherry, Clammy (Seedling)
<i>Physalis angulata</i>	Groundcherry, Cutleaf
<i>Senecio vulgaris</i>	Groundsel, Common
<i>Lamium amplexicaule</i>	Henbit
<i>Conyza Canadensis</i>	Horseweed (Marestail)
<i>Datura stramonium</i>	Jimsonweed
<i>Sorghum halepense</i>	Johnsongrass
<i>Echinochloa colona</i>	Junglerice
<i>Polygonum arenastrum</i>	Knotweed, Common
<i>Kochia scoparia</i>	Kochia (ALS- and Triazine-Resistant)
<i>Kyllinga brevifolia</i>	Kyllinga, Green
<i>Kyllinga gracillima</i>	Kyllinga, False Green
<i>Polygonum persicaria</i>	Ladysthumb
<i>Chenopodium album</i>	Lambsquarters, Common
<i>Montia perfoliata</i>	Lettuce, Miners
<i>Eragrostis</i> spp.	Lovegrass species

SCIENTIFIC NAME	COMMON NAME
<i>Malva neglecta</i> wall R.	Mallow, Common
<i>Malva parviflora</i>	Mallow, Little
<i>Anthemis cotula</i> L.	Mayweed, Chamomile
<i>Ampelamus albidus</i>	Milkweed, Honeyvine
<i>Ipomoea hederacea integruscula</i>	Morningglory, Entireleaf
<i>Ipomoea hederacea</i> var. <i>hederacea</i>	Morningglory, Ivyleaf
<i>Ipomoea wrightii</i>	Morningglory, Palmleaf
<i>Ipomoea turbinata</i>	Morningglory, Purple
<i>Ipomoea coccinea</i> L.	Morningglory, Red
<i>Ipomoea coccinea</i>	Morningglory, Scarlet
<i>Jacquemontia tamnifolia</i>	Morningglory, Smallflower
<i>Ipomoea purpurea</i>	Morningglory, Tall
<i>Eremocarpus setigerus</i>	Mullein, Turkey
<i>Brassica</i> spp.	Mustard species
<i>Sisymbrium altissimum</i>	Mustard, Tumble
<i>Urtica urens</i>	Nettle, Burning
<i>Solanum nigrum</i>	Nightshade, Black
<i>Solanum ptycanthum</i>	Nightshade, Eastern Black
<i>Cyperus rotundus</i>	Nutsedge, Purple
<i>Cyperus esculentus</i>	Nutsedge, Yellow
<i>Panicum dichotomiflorum</i>	Panicum, Fall
<i>Dactylis glomerata</i>	Orchardgrass
<i>Panicum dichotomiflorum</i>	Panicum, Fall
<i>Amaranthus blitoides</i>	Pigweed, Prostrate
<i>Amaranthus retroflexus</i>	Pigweed, Redroot
<i>Amaranthus hybridus</i>	Pigweed, Smooth
<i>Amaranthus albus</i>	Pigweed, Tumble
<i>Chamomilla suaveolens</i>	Pineapple Weed
<i>Plantago rugelii</i> Decne	Plantain, Blackseed
<i>Plantago lanceolata</i>	Plantain, Narrow-leaved
<i>Diodia feres</i>	Poorjoe
<i>Porophyllum ruderale</i>	Porophyllum
<i>Euphorbia heterophylla</i>	Poinsettia, Wild
<i>Tribulus terrestris</i>	Puncturevine
<i>Portulaca oleracea</i>	Purslane, Common
<i>Richardia scabra</i>	Pusley, Florida
<i>Raphanus raphanistrum</i>	Radish, Wild
<i>Calandrinia ciliate</i>	Redmaids
<i>Melochia corchorifolia</i>	Redweed
<i>Sisymbrium irio</i>	Rocket, London
<i>Lolium multiflorum</i>	Ryegrass, Italian
<i>Cenchrus spinifex</i>	Sandbur
<i>Cyperus</i> spp.	Sedge, Annual
<i>Cyperus retrorsus</i>	Sedge, Cylindrical
<i>Cyperus globulosus</i>	Sedge, Globe
<i>Cyperus surinamensis</i>	Sedge, Surinam
<i>Cyperus polystachyos</i>	Sedge, Texas
<i>Cassia occidentalis</i>	Senna, Coffee
<i>Capsella bursa-pastoris</i>	Shepherd's Purse
<i>Sida spinosa</i>	Sida, Prickly
<i>Sida acuta</i>	Sida, Southern
<i>Brachiaria platyphylla</i>	Signalgrass, Broadleaf
<i>Polygonum pensylvanicum</i>	Smartweed, Pennsylvania
<i>Cucumis melo</i>	Smellmelon
<i>Sonchus</i> spp.	Sowthistle species
<i>Leptochloa filiformis</i>	Sprangletop, Red
<i>Chamaesyce maculate</i>	Spurge, Spotted
<i>Acanthospermum hispidum</i>	Starbur, Bristly
<i>Eragrostis cilianensis</i>	Stinkgrass
<i>Linaria vulgaris</i>	Toadflax, Yellow
<i>Emilio sonchifolia</i>	Tasselflower, Red
<i>Salsola kali</i>	Thistle, Russian
<i>Amaranthus rudis</i>	Waterhemp, Common
<i>Amaranthus tuberculatus</i>	Waterhemp, Tall
<i>Ludwigia decurrens</i>	Waterprimrose, Winged
<i>Epilobium brachycarpum</i>	Willowleaf, Panicle-leaf

SCIENTIFIC NAME	COMMON NAME
<i>Panicum capillare</i>	Witchgrass

CROP USE DIRECTIONS

ASPARAGUS

Application Timing <ul style="list-style-type: none"> Apply in the spring before crop and weeds emerge. Apply to crowns that have completed one full year growing season, and are healthy and vigorous. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 4.5 - 6.0 fl. oz./acre 1.5%-3.0% Organic Matter: 6.8 - 8.0 fl. oz./acre >3.0% Organic Matter: 8.0 - 10.0 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 6.0 - 8.0 fl. oz./acre 1.5%-3.0% Organic Matter: 8.0 - 10.0 fl. oz./acre >3.0% Organic Matter: 10.1 - 12.0 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 8.0 fl. oz./acre 1.5%-3.0% Organic Matter: 10.0 fl. oz./acre >3.0% Organic Matter: 12.0 fl. oz./acre 	Important <ul style="list-style-type: none"> Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 45C with specific local varieties or cultivars of asparagus.
See Soil Categories chart for additional information.	
Application Instructions <ul style="list-style-type: none"> Apply Crop Protect Direct Sulfen 45C in 10 to 40 gallons of spray solution per acre. Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). 	
Application Restrictions <ul style="list-style-type: none"> Do not apply to frozen soils or existing snow cover to prevent this product to runoff from rain or snowmelt that may occur following application. Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 45C is first applied). Do not make more than one application in a 12-month period (12-month period from when Crop Protect Direct Sulfen 45C is first applied). Pre-Harvest Interval (PHI): 14 Days Do not use on soils classified as "sand" (with <1% organic matter). 	
Tank Mixes Tank mix Crop Protect Direct Sulfen 45C with pesticides registered for use on asparagus. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).	

BERRIES

(Crop Group 13-07)

Aronia berry, Bayberry, Bearberry, Bilberry, Blackberry (including Andean Blackberry, Arctic Blackberry, Bingleberry, Black Satin Berry, Boysenberry, Brombeere, California Blackberry, Chesterberry, Cherokee Blackberry, Cheyenne Blackberry, Common Blackberry, Coryberry, Darrowberry, Dewberry, Dirksen Thornless Berry, Evergreen Blackberry, Himalayaberry, Hullberry, Lavacaberry, Loganberry, Lowberry, Lucretiaberry, Mammoth Blackberry, Marionberry, Mora, Mures Deronce, Nectarberry, Northern dewberry, Olallieberry, Oregon Evergreen Berry, Phenomenal Berry, Range Berry, Ravenberry, Rossberry, Shawnee Blackberry, Southern Dewberry, Tayberry, Youngberry, Zarzamora, and cultivars and hybrids of these), Blueberry (Highbush & Lowbush), Buffalo Currant, Buffaloberry, Che, Chilean, Guava, Chokecherry, Cloudberry, Cranberry, Cranberry (Highbush), Currant, Black Currant, Red, Elderberry, European Barberry, Gooseberry, Honeysuckle, edible Huckleberry, Jostaberry, Juneberry (Saskatoon berry), Kiwifruit, Funny Kiwifruit, Hardy, Lingonberry, Maypop, Mountain Pepper Berries, Mulberry, Muntries, Native Current, Partridgeberry, Phalsa, Pin Cherry, Raspberry, Black and Red Berry, Salal, Schisandra Berry, Sea Buckthorn, Serviceberry, Wild Raspberry, and Cultivars, varieties and/or hybrids of these

Application Timing <ul style="list-style-type: none"> Make a broadcast soil application when weeds are not present and/or a post-emergence herbicide has been tank mixed with Crop Protect Direct Sulfen 45C. Make applications to crops that have been established for one full growing season and are healthy and vigorous. Apply Crop Protect Direct Sulfen 45C when soil is moist and application will be followed by ½" rainfall or irrigation within two weeks after application. Time applications to take advantage of normal rainfall and cool temperatures, especially if using drip or micro sprinkler irrigation is used which may not provide uniform incorporation into the soil.
Application Instructions <ul style="list-style-type: none"> Apply with ground application equipment only. Make a uniform broadcast soil application to orchard and vineyard floors, to berry beds, and furrows. Apply in a minimum of 10 gallons of spray solution per acre. The spray solution pH should be 5.0-9.0; nozzles must meet manufacturer's spray volume and pressure specifications for pre-emergence and post-emergence herbicide applications. Wrap the trunks of green bark, young vines, and trees with a non-porous wrap, grow tubes, or wax containers to avoid Crop Protect Direct Sulfen 45C contact with green tissue.

- Apply as a uniform band application directed to the base of the tree trunk in trees and vines and to the base of the berry and beds in berries.
- **Broadcast Applications:** Make a single application of 4-12 fl. oz./acre (0.125-0.375 lb. a.i./acre).
- **Banded Applications:** Refer to the following chart for the appropriate rate and volume of **Crop Protect Direct Sulfen 4SC** to be applied. **Crop Protect Direct Sulfen 4SC** can be applied twice in one year. For band treatments, apply the broadcast rate and volume per acre. To determine these:

$$\text{Band Rate} = \frac{\text{Band Width (Ft.)}}{\text{Row Within Feet}} \times \text{Broadcast Rate/Acre}$$

$$\text{Band Volume} = \text{Band Width Feet} \times \text{Broadcast Volume/Acre}$$

Application Restrictions

- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not apply to frozen soils or existing snow cover to prevent this product to runoff from rain or snowmelt that may occur following application.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not apply **Crop Protect Direct Sulfen 4SC** to green tissue, crop foliage, or fruit.
- Do not make aerial applications.
- Do not apply after petal fall unless using a hooded or shielded sprayer to avoid contact with foliage and fruit.
- Do not apply when heavy crop trash is present (leaves/branches/weed residue). Clean the area to be treated prior to applying **Crop Protect Direct Sulfen 4SC**.
- Do not apply to powdery soils or soils where windy conditions may displace soil unless soil can be irrigated immediately after treatment.
- Pre-Harvest Interval (PHI): 3 days
- If banded treatments are made, wait a minimum of 60 days between applications. Do not exceed the annual maximum use rate.

Tank Mixes

Crop Protect Direct Sulfen 4SC can be tank mixed with other pre-emergence and post-emergence burndown herbicides labeled for use on listed crops. Refer to the tank mix partner label for the proper use directions and restrictions. Use the most restrictive label and precautions of the tank mix product(s). Do not tank mix sulfentrazone-containing products with flumioxazin.

Replanting in New or Established Orchards and Vineyards

Wait at least 30 days after applying **Crop Protect Direct Sulfen 4SC** before replanting trees and vines in newly planted and established orchards and vineyards. Use untreated soil when replanting trees and vines.

Control/Suppression of Sedge/Nutsedge

- Make a post-emergence application of **Crop Protect Direct Sulfen 4SC** at 12 fl. oz./acre (0.375 lb. a.i./acre).
- Use a 25% v/v non-ionic surfactant (NIS).
- Post-emergence applications may be most effective since **Crop Protect Direct Sulfen 4SC** is absorbed into the plant through the foliage and roots.
- Pre-emergence applications of **Crop Protect Direct Sulfen 4SC** will suppress sedges, but will not provide complete control.
- For optimal control of purple nutsedge, make split applications of **Crop Protect Direct Sulfen 4SC**. Make an initial application of 4-6 fl. oz./acre followed by a 2nd application to actively growing purple nutsedge. DO NOT exceed the maximum application rate of 12 fl. oz./acre (0.375 lb. a.i./acre). Optimal control may not occur until the 2nd year after the initial application of **Crop Protect Direct Sulfen 4SC**.

BRASSICA (HEAD AND STEM)

(Broccoli, Chinese broccoli, Brussels sprouts, Chinese (napa) Cabbage, Chinese mustard, Cauliflower, Cavalo broccoli, Kohlrabi)

Application Timing

- Apply pre-plant to stubble or soil surface in the fall.
- Apply early pre-plant, pre-plant incorporated, pre-emergence in the spring up to 72 hours before transplanting.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 3.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 12.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 12.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 4SC** with specific local varieties or cultivars of head and stem brassica.

Application Instructions

- Unless applying pre-plant incorporated, do not incorporate **Crop Protect Direct Sulfen 4SC** into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur.

<ul style="list-style-type: none"> If applying pre-plant incorporated in the spring, mix thoroughly or shallowly incorporate Crop Protect Direct Sulfen 4SC into the soil prior to transplanting. Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).
Application Restrictions <ul style="list-style-type: none"> Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application. Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre. Do not incorporate into the soil deeper than 2". Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). Do not use on soils classified as "sand" (with <1% organic matter).
Tank Mixes Crop Protect Direct Sulfen 4SC can be split-applied or mixed with burndown herbicides or residual soil herbicides registered for use on head and stem brassica. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

BRASSICA, LEAFY GREENS

(Broccoli raab, Chinese (bok choy) cabbage, Collards, Kale, Mizuna, Mustard greens, Mustard spinach, Rape greens)

Broccoli, radish, Chinese (bok choy) cabbage, collards, kale, Mizuna, mustard greens, mustard spinach, rape greens	
Application Timing <ul style="list-style-type: none">• Apply pre-plant to stubble or soil surface in the fall.• Early pre-plant, pre-plant incorporated, pre-emergence in the spring up to 72 hours before transplanting.	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none">• <1.5% Organic Matter: 2.25 - 3.0 fl. oz./acre• 1.5%-3.0% Organic Matter: 3.0 - 6.0 fl. oz./acre• >3.0% Organic Matter: 6.0 - 6.4 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none">• <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre• 1.5%-3.0% Organic Matter: 6.0 - 6.4 fl. oz./acre• >3.0% Organic Matter: 6.0 - 6.4 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none">• <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre• 1.5%-3.0% Organic Matter: 6.0 - 6.4 fl. oz./acre• >3.0% Organic Matter: 6.0 - 6.4 fl. oz./acre See Soil Categories chart for additional information.	Important <ul style="list-style-type: none">• Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.• Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 4SC with specific local varieties or cultivars of brassica, leafy greens.
Application Instructions <ul style="list-style-type: none">• Unless applying pre-plant incorporated, do not incorporate Crop Protect Direct Sulfen 4SC into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur.• If applying pre-plant incorporated in the spring, mix thoroughly or shallowly incorporate Crop Protect Direct Sulfen 4SC into the soil prior to transplanting.• Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).	
Application Restrictions <ul style="list-style-type: none">• Do not apply more than 6.4 fl. oz. product per acre (0.2 lb. a.i./acre) per single application.• Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 3.2 fl. oz./acre.• Do not incorporate into the soil deeper than 2".• Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil.• Do not apply more than 6.4 fl. oz. product per acre (0.2 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied).• Do not use on soils classified as "sand" (with <1% organic matter).	
Tank Mixes Crop Protect Direct Sulfen 4SC can be split-applied or mixed with burndown herbicides or residual soil herbicides registered for use on brassica, leafy greens. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).	

CABBAGE**(Transplanted Only)**

Application Timing <ul style="list-style-type: none">• Apply pre-plant to stubble or soil surface in the fall or in the spring 60 days prior to planting or up to 72 hours after transplanting.• If applying pre-emergence before transplant, make broadcast or banded applications.• Early pre-plant applications can only be made in the states of CO, ID, MI, MN, MT, NE, ND, OR, SD, WA, WI, and WY.	
Application Rates Coarse Textured Soils:	Important

<ul style="list-style-type: none"> • <1.5% Organic Matter: 2.25 - 3.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.0 - 6.0 fl. oz./acre • >3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre <p>Medium Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre • 1.5%-3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre • >3.0% Organic Matter: 6.0 - 12.0 fl. oz./acre <p>Fine Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre • >3.0% Organic Matter: 6.0 - 12.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	<ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 45C with specific local varieties or cultivars of cabbage.
<p>Application Instructions</p> <ul style="list-style-type: none"> • Unless applying pre-plant incorporated, do not incorporate Crop Protect Direct Sulfen 45C into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. • If applying pre-plant incorporated in the spring, mix thoroughly or shallowly incorporate Crop Protect Direct Sulfen 45C into the soil prior to transplanting. • If applying pre-emergence, applications before transplant can be broadcast or banded. • Pre-emergence applications up to 72 hours after transplant should be a banded treatment in the row middles. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). 	
<p>Application Restrictions</p> <ul style="list-style-type: none"> • Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre. • Do not incorporate into the soil deeper than 2". • Do not apply Crop Protect Direct Sulfen 45C to frozen or snow-covered soil. • Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 45C is first applied). • Do not use on soils classified as "sand" (with <1% organic matter). 	
<p>Tank Mixes</p> <p>Crop Protect Direct Sulfen 45C can be split-applied or mixed with burndown herbicides or soil-applied herbicides registered for use on cabbage. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).</p>	

CITRUS**Crop Group 10**

Australian desert lime, Australian finger lime, Australian round lime, Brown River finger lime, Calamondin, Citron, Citrus hybrids, Grapefruit, Japanese summer Grapefruit, Kumquat, Lemon, Lime, Mediterranean Mandarin, Mount White lime, New Guinea Wild Lime, Orange (Sour, Sweet), Pummelo, Russell River Lime, Satsuma Mandarin, Sweet Lime, Tachibana Orange, Tahiti Lime, Tangelo, Tangerine (Mandarin), Tangor, Trifoliate Orange, Uniq Fruit, and cultivars varieties of citrus

<p>Application Timing</p> <ul style="list-style-type: none"> • Make a broadcast soil application when weeds are not present and/or a post-emergence herbicide has been tank mixed with Crop Protect Direct Sulfen 45C. • Make applications to crops that have been established for one full growing season and are healthy and vigorous. • Apply Crop Protect Direct Sulfen 45C when soil is moist and application will be followed by ½" rainfall or irrigation within two weeks after application. • Time applications to take advantage of normal rainfall and cool temperatures, especially if using drip or micro sprinkler irrigation is used which may not provide uniform incorporation into the soil.
<p>Application Instructions</p> <ul style="list-style-type: none"> • Apply with ground application equipment only. • Make a uniform broadcast soil application to orchard and vineyard floors, to berry beds, and furrows. • Apply in a minimum of 10 gallons of spray solution per acre. The spray solution pH should be 5.0-9.0; nozzles must meet manufacturer's spray volume and pressure specifications for pre-emergence and post-emergence herbicide applications. • Wrap the trunks of green bark, young vines, and trees with a non-porous wrap, grow tubes, or wax containers to avoid Crop Protect Direct Sulfen 45C contact with green tissue. • Apply as a uniform band application directed to the base of the tree trunk in trees and vines and to the base of the berry and beds in berries. • Broadcast Applications: Make a single application of 4-12 fl. oz./acre (0.125-0.375 lb. a.i./acre). • Banded Applications: Refer to the following chart for the appropriate rate and volume of Crop Protect Direct Sulfen 45C to be applied. Crop Protect Direct Sulfen 45C can be applied twice in one year. For band treatments, apply the broadcast rate and volume per acre. To determine these: $\text{Band rate} = \frac{\text{Band Width (Ft.)}}{\text{Row Within Feet}} \times \text{Broadcast Rate/Acre}$ $\text{Band Volume} = \text{Band Width Feet} \times \text{Broadcast Volume/Acre}$
<p>Application Restrictions</p> <ul style="list-style-type: none"> • Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.

- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not apply **Crop Protect Direct Sulfen 45C** to green tissue, crop foliage, or fruit.
- Do not make aerial applications.
- Do not apply after petal fall unless using a hooded or shielded sprayer to avoid contact with foliage and fruit.
- Do not apply when heavy crop trash is present (leaves/branches/weed residue). Clean the area to be treated prior to applying **Crop Protect Direct Sulfen 45C**.
- Do not apply to powdery soils or soils where windy conditions may displace soil unless soil can be irrigated immediately after treatment.
- Pre-Harvest Interval (PHI): 3 days
- If banded treatments are made, wait a minimum of 60 days between applications. Do not exceed the annual maximum use rate.

Tank Mixes

Crop Protect Direct Sulfen 45C can be tank mixed with other pre-emergence and post-emergence burndown herbicides labeled for use on listed crops. Refer to the tank mix partner label for the proper use directions and restrictions. Use the most restrictive label and precautions of the tank mix product(s). Do not tank mix sulfentrazone-containing products with flumioxazin.

Replanting in New or Established Orchards and Vineyards

Wait at least 30 days after applying **Crop Protect Direct Sulfen 45C** before replanting trees and vines in newly planted and established orchards and vineyards. Use untreated soil when replanting trees and vines.

Control/Suppression of Sedge/Nutsedge

- Make a post-emergence application of **Crop Protect Direct Sulfen 45C** at 12 fl. oz./acre (0.375 lb. a.i./acre).
- Use a 25% v/v non-ionic surfactant (NIS).
- Post-emergence applications may be most effective since **Crop Protect Direct Sulfen 45C** is absorbed into the plant through the foliage and roots.
- Pre-emergence applications of **Crop Protect Direct Sulfen 45C** will suppress sedges, but will not provide complete control.
- For optimal control of purple nutsedge, make split applications of **Crop Protect Direct Sulfen 45C**. Make an initial application of 4-6 fl. oz./acre followed by a 2nd application to actively growing purple nutsedge. DO NOT exceed the maximum application rate of 12 fl. oz./acre (0.375 lb. a.i./acre). Optimal control may not occur until the 2nd year after the initial application of **Crop Protect Direct Sulfen 45C**.

CORN (FIELD, SEED, POP)**(For Use Only with GMO Varieties Tolerant to PPO Herbicides)****Application Timing**

- Apply pre-plant to stubble or soil surface in the fall before spring planting.
- Apply early pre-plant, pre-plant incorporated, pre-emergence in the spring 45 days prior to planting or up to 3 days after planting if seed furrow is closed and seedlings have not broken soil surface.

Application Rates**Coarse Textured Soils:**

- Up to 3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre
- >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.75 - 5.25 fl. oz./acre
- 1.5%-3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties or cultivars of corn.
- Moisture (rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed.

Application Instructions

- Early pre-plant, pre-plant incorporated, post-emergence in the spring after planting: broadcast or banded soil application.
- **Crop Protect Direct Sulfen 45C** can be applied in conventional, conservation, reduced, or no tillage cropping systems.
- For applications in the fall or up to 14 days prior to planting in the spring, use the mid to higher rate within the specified rate range for your soil type, because of the extended time period between application and planting.
- If applying pre-plant incorporated in the spring, mix thoroughly or shallowly incorporate **Crop Protect Direct Sulfen 45C** into the soil using a field cultivator, disk harrow, field finisher, or other correctly adjusted incorporation tool.
- Make a split application or sequential application if treating difficult to control weeds and/or late emerging weeds.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).
- Minimize soil disturbance when planting into soil treated with **Crop Protect Direct Sulfen 45C**.

Application Restrictions

- Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not disturb the soil surface after application.

- Do not apply to frozen or snow-covered soil.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not use on soils classified as “sand” (with <1% organic matter).
- Do not incorporate into the soil deeper than 2”.

Tank Mixes

Crop Protect Direct Sulfen 45C can be mixed with burndown herbicides or residual soil herbicides to control emerged weeds. **Crop Protect Direct Sulfen 45C** can be mixed with insecticides to control cutworms, armyworms, or other insect pests. Refer to the tank mix partner’s label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s). **Crop Protect Direct Sulfen 45C** can be mixed with insecticides that control cutworms, armyworms, and other insect pests.

BEANS AND PEAS (DRY SHELLED)

Dried cultivars of bean (*Lupinus*); bean (*Phaseolus*) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); bean (*Vigna*) (includes adzuki bean, blackeye pea, catjang, cowpea, crowder pea, moth bean, lentil, mung bean, rice bean, southern pea, urd bean); broad bean (dry); chickpea; guar; lablab bean; pea (*Pisum*) (includes field pea), and pigeon pea

Application Timing

- Apply to stubble or soil surface.
- Make early pre-plant applications in the fall before the spring growing season in the states of CO, ID, KS, MI, MN, MT, NE, ND, OR, SD, WA, WI, and WY.
- Apply in the spring 60 days prior to planting or up to 3 days after planting if seed furrow is completely closed, and if seedlings have not broken the soil furrow.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 3.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre
- >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 5.25 - 8.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties of dry beans and peas.
- Planting in less than 1” in depth or inadequate seed furrow closure or poor growing conditions (disease, low temperature, soil compaction, excessive moisture) can cause crop injury.
- Moisture (rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed.

Application Instructions

- When applying pre-plant incorporated in the fall, do not incorporate **Crop Protect Direct Sulfen 45C** into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur.
- If applying pre-plant incorporated in the spring earlier than 3 weeks prior to planting, use the higher rate within the specified rate range listed in the **Application Rates** section for appropriate soil and organic matter type.
- If applying **Crop Protect Direct Sulfen 45C** pre-plant incorporated in the spring prior to planting reduced and conventional tillage dry beans and dry peas, mix thoroughly or shallowly incorporate **Crop Protect Direct Sulfen 45C** into the soil.
- Wait a minimum of 7 days after application to plant in coarse textured soils with <1.5% organic matter.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).
- Reduce rate of **Crop Protect Direct Sulfen 45C** on coarse textured soil with organic matter less than 1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings.

Application Restrictions

- Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.0 fl. oz./acre.
- Do not incorporate into the soil deeper than 2”.
- Do not apply **Crop Protect Direct Sulfen 45C** to frozen or snow-covered soil.
- Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not use on soils classified as “sand” (with <1% organic matter).
- Do not apply **Crop Protect Direct Sulfen 45C** if seedlings are close to soil surface or crop has emerged.

Tank Mixes

Crop Protect Direct Sulfen 45C can be split-applied or mixed with burndown herbicides or soil-applied herbicides registered for use on dry beans and peas. Refer to the tank mix partner’s label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

FALLOW OR POST-HARVEST BURNDOWN**Application Timing**

- Apply post-harvest in the fall to stubble or soil surface.
- Apply in the spring pre-emergence as a fallow treatment.
- Fall application can be made in the states of MN, ND, SD, MT, CO, NE, WY, ID, OR, WI, or MI.

<ul style="list-style-type: none"> Spring application can be made to existing fallow fields of asparagus, cabbage, corn, dry shell peas and beans, horseradish, limas, mint, peanuts, potatoes, soybeans, sugarcane, sunflowers, or tobacco. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 3.0 - 3.75 fl. oz./acre 1.5%-3.0% Organic Matter: 3.75 - 5.25 fl. oz./acre >3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre >3.0% Organic Matter: 4.5 - 8.0 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 3.75 - 5.25 fl. oz./acre 1.5%-3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre >3.0% Organic Matter: 5.25 - 8.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	Important <ul style="list-style-type: none"> Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. Follow rotational crop guidelines listed on this table when planting crops in the next season. Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 45C with specific local varieties of given crop species. Moisture (rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed.
Application Instructions <ul style="list-style-type: none"> Apply Crop Protect Direct Sulfen 45C to stubble or soil surface in the fall, or as a fallow treatment in the spring. If weed size is such that the weeds interfere with Crop Protect Direct Sulfen 45C getting to the soil surface, a separate burndown herbicide should be used prior to application of Crop Protect Direct Sulfen 45C. Use higher application rates within the specified rate range, or more than one application of a burndown herbicide, if necessary, to remove emerged weeds. If making aerial application, use higher listed spray volumes of burndown herbicide to control dense weeds or canopy. Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). 	
Application Restrictions <ul style="list-style-type: none"> Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application. Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.0 fl. oz./acre Do not incorporate into the soil. Do not disturb the soil surface once Crop Protect Direct Sulfen 45C has been applied. Do not apply Crop Protect Direct Sulfen 45C to frozen or snow-covered soil. Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 45C is first applied). Do not use on soils classified as "sand" (with <1% organic matter). 	
Tank Mixes Crop Protect Direct Sulfen 45C can be mixed with burndown herbicides or residual soil herbicides to control emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).	

FLAX

Application Timing <ul style="list-style-type: none"> Apply Crop Protect Direct Sulfen 45C as a pre-emergence treatment prior to planting up to just before seedling emergence. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 3.0-3.75 fl. oz./acre 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre >3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 3.75 - 5.25 fl. oz./acre 1.5%-3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre >3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	Important <ul style="list-style-type: none"> Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 45C with specific local varieties or cultivars of flax. Planting less than 1" in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response. Extended periods of dry weather can reduce weed control.
Application Instructions <ul style="list-style-type: none"> Apply Crop Protect Direct Sulfen 45C as a pre-emergent treatment prior to planting up just before seedling emergence. Crop Protect Direct Sulfen 45C can be followed with a post-emergence flax herbicide. Wait a minimum of 7 days after application to plant in coarse textured soils with <1.5% organic matter. Eliminate use or reduce rate of Crop Protect Direct Sulfen 45C to 3.0 fl. oz./acre (0.94 lb. a.i./acre) on coarse textured soil with organic matter <1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize crop injury. Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). 	

Application Restrictions <ul style="list-style-type: none"> Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application. Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre. Do not apply Crop Protect Direct Sulfen 4SC after flax seedlings are close to soil surface or have emerged. Do not incorporate into the soil any deeper than 2". Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). Do not use on soils classified as "sand" (with <1% organic matter).
Tank Mixes Crop Protect Direct Sulfen 4SC can be applied alone or in combination with other herbicides labeled for use on flax. Tank mix Crop Protect Direct Sulfen 4SC with burndown herbicides to control emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

FRUITING VEGETABLES (except Cucurbits) and OKRA

Eggplant, groundcherry (*Physalis* spp.), pepino, pepper (includes bell pepper, chili pepper, cooking pepper, okra, pimento, sweet pepper), tomatillo, tomato

Application Timing <ul style="list-style-type: none"> Make applications before transplanting. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 2.25 - 3.0 fl. oz./acre 1.5%-3.0% Organic Matter: 3.0 - 6.0 fl. oz./acre >3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre 1.5%-3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre >3.0% Organic Matter: 6.0 - 12.0 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre 1.5%-3.0% Organic Matter: 6.0 - 9.0 fl. oz./acre >3.0% Organic Matter: 6.0 - 12.0 fl. oz./acre 	Important <ul style="list-style-type: none"> Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 4SC with specific local varieties or cultivars of fruiting vegetables.
See Soil Categories chart for additional information.	
Application Instructions <ul style="list-style-type: none"> Apply Crop Protect Direct Sulfen 4SC as a pre-emergence treatment (broadcast or banded) to fruiting vegetables. Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). 	
Application Restrictions <ul style="list-style-type: none"> Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application. Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre. Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. Do not use on soils that contain less than 1% organic matter (soils classified as "sand"). 	

GRAPES

(raisin, table and juice, wine, Amur river grape)

Application Timing <ul style="list-style-type: none"> Make a broadcast soil application when weeds are not present and/or a post-emergence herbicide has been tank mixed with Crop Protect Direct Sulfen 4SC. Make applications to crops that have been established for one full growing season and are healthy and vigorous. Apply Crop Protect Direct Sulfen 4SC when soil is moist and application will be followed by ½" rainfall or irrigation within two weeks after application. Time applications to take advantage of normal rainfall and cool temperatures, especially if using drip or micro sprinkler irrigation is used which may not provide uniform incorporation into the soil.
Application Instructions <ul style="list-style-type: none"> Apply with ground application equipment only. Make a uniform broadcast soil application to orchard and vineyard floors, to berry beds, and furrows. Apply in a minimum of 10 gallons of spray solution per acre. The spray solution pH should be 5.0-9.0; nozzles must meet manufacturer's spray volume and pressure specifications for pre-emergence and post-emergence herbicide applications. Wrap the trunks of green bark, young vines, and trees with a non-porous wrap, grow tubes, or wax containers to avoid Crop Protect Direct Sulfen 4SC contact with green tissue.

<ul style="list-style-type: none"> Apply as a uniform band application directed to the base of the tree trunk in trees and vines and to the base of the berry and beds in berries. Broadcast Applications: Make a single application of 4-12 fl. oz./acre (0.125-0.375 lb. a.i./acre). Banded Applications: Refer to the following chart for the appropriate rate and volume of Crop Protect Direct Sulfen 4SC to be applied. Crop Protect Direct Sulfen 4SC can be applied twice in one year. For band treatments, apply the broadcast rate and volume per acre. To determine these: $\text{Band rate} = \frac{\text{Band Width (Ft.)}}{\text{Row Within Feet}} \times \text{Broadcast Rate/Acre}$ $\text{Band Volume} = \text{Band Width Feet} \times \text{Broadcast Volume/Acre}$ 	
Application Restrictions <ul style="list-style-type: none"> Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application. Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre. Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). Do not apply Crop Protect Direct Sulfen 4SC to green tissue, crop foliage, or fruit. Do not make aerial applications. Do not apply after petal fall unless using a hooded or shielded sprayer to avoid contact with foliage and fruit. Do not apply when heavy crop trash is present (leaves/branches/weed residue). Clean the area to be treated prior to applying Crop Protect Direct Sulfen 4SC. Do not apply to powdery soils or soils where windy conditions may displace soil unless soil can be irrigated immediately after treatment. Pre-Harvest Interval (PHI): 3 days If banded treatments are made, wait a minimum of 60 days between applications. Do not exceed the annual maximum use rate. 	
Tank Mixes Crop Protect Direct Sulfen 4SC can be tank mixed with other pre-emergence and post-emergence burndown herbicides labeled for use on listed crops. Refer to the tank mix partner label for the proper use directions and restrictions. Use the most restrictive label and precautions of the tank mix product(s). Do not tank mix sulfentrazone-containing products with flumioxazin.	
Replanting in New or Established Orchards and Vineyards Wait at least 30 days after applying Crop Protect Direct Sulfen 4SC before replanting trees and vines in newly planted and established orchards and vineyards. Use untreated soil when replanting trees and vines.	
Control/Suppression of Sedge/Nutsedge <ul style="list-style-type: none"> Make a post-emergence application of Crop Protect Direct Sulfen 4SC at 12 fl. oz./acre (0.375 lb. a.i./acre). Use a 25% v/v non-ionic surfactant (NIS). Post-emergence applications may be most effective since Crop Protect Direct Sulfen 4SC is absorbed into the plant through the foliage and roots. Pre-emergence applications of Crop Protect Direct Sulfen 4SC will suppress sedges, but will not provide complete control. For optimal control of purple nutsedge, make split applications of Crop Protect Direct Sulfen 4SC. Make an initial application of 4-6 fl. oz./acre followed by a 2nd application to actively growing purple nutsedge. DO NOT exceed the maximum application rate of 12 fl. oz./acre (0.375 lb. a.i./acre). Optimal control may not occur until the 2nd year after the initial application of Crop Protect Direct Sulfen 4SC. 	

HORSERADISH

Application Timing <ul style="list-style-type: none"> Apply pre-plant in the fall before the growing season. Apply in the spring early (pre-plant, pre-emergence, pre-plant incorporated). Early pre-plant applications can only be made in the states of CO, ID, MI, MN, MT, NE, ND, OR, SD, WA, WI, or WY. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 2.25 - 4.5 fl. oz./acre 1.5%-3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre >3.0% Organic Matter: 6.0 - 7.5 fl. oz./acre Medium or Fine Textured Soils: <ul style="list-style-type: none"> <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre 1.5%-3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre >3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre See Soil Categories chart for additional information.	Important <ul style="list-style-type: none"> Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 4SC with specific local varieties or cultivars of horseradish. Moisture (rain or snow) should occur after application to move the product into the soil.
Application Instructions <ul style="list-style-type: none"> Apply Crop Protect Direct Sulfen 4SC to stubble or soil surface. If applying pre-plant in the spring, apply Crop Protect Direct Sulfen 4SC 60 days prior to planting up to planting. If making pre-emergence applications before planting, and up to 5 days before crop emergence can be broadcast or banded. If applying after crop emergence, apply Crop Protect Direct Sulfen 4SC to row middles as a banded treatment. Use higher rates within the specified rate range if soil is clay or has >1% organic matter. 	

- If applying pre-plant incorporated in the spring, prior to planting, mix thoroughly or shallowly incorporate **Crop Protect Direct Sulfen 45C** into the soil.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).

Application Restrictions

- Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.0 fl. oz./acre.
- Do not incorporate into the soil deeper than 2".
- Do not apply **Crop Protect Direct Sulfen 45C** to frozen or snow-covered soil.
- Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not use on soils classified as "sand" (with <1% organic matter).
- Do not apply **Crop Protect Direct Sulfen 45C** if seedlings are close to soil surface or have emerged (apply a banded treatment to row middles).

Tank Mixes

Crop Protect Direct Sulfen 45C can be split-applied or mixed with burndown herbicides, residual soil herbicides or other pesticides to control emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

**LIMA BEANS, SUCCULENT
(Tennessee Only)****Application Timing**

- Make pre-emergence applications before transplanting.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 3.75 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre
- >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.75 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 5.25 - 6.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties or cultivars of lima beans.
- Planting less than 1" in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Extended periods of dry weather can reduce weed control.

Application Instructions

- Apply **Crop Protect Direct Sulfen 45C** as a pre-emergence treatment.
- Apply **Crop Protect Direct Sulfen 45C** in at least 10 gallons of finished spray per acre.
- Apply with ground equipment.
- Wait a minimum of 7 days after application to plant in coarse soils with <1.5% organic matter.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).
- Reduce rate of **Crop Protect Direct Sulfen 45C** on coarse textured soil with organic matter less than 1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings.

Application Restrictions

- Do not apply more than 6 fl. oz. product per acre (0.1875 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 3.0 fl. oz./acre.
- Do not apply **Crop Protect Direct Sulfen 45C** to frozen or snow-covered soil.
- Do not use on soils classified as "sand" (with <1% organic matter).
- Do not apply more than 6.0 fl. oz. product per acre (0.1875 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not incorporate **Crop Protect Direct Sulfen 45C** into the soil.

MELONS**(Citron melon, muskmelon, watermelon)****Application Timing**

- Make pre-emergence applications 48 hours prior to planting up to just before seedling emergence.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 3.75 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre
- >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties or cultivars of melons.

<ul style="list-style-type: none"> • 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre • >3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.75 - 6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre • >3.0% Organic Matter: 5.25 - 6.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	<ul style="list-style-type: none"> • Planting less than 1" in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response. • Extended periods of dry weather can reduce weed control.
Application Instructions <ul style="list-style-type: none"> • Apply Crop Protect Direct Sulfen 4SC as a pre-emergence treatment from 48 hours prior to planting up to just before seedling emergence. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). 	
Application Restrictions <ul style="list-style-type: none"> • Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.0 fl. oz./acre. • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. • Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). • Do not apply Crop Protect Direct Sulfen 4SC if seedlings are close to the soil surface or have emerged. • Do not use on soils classified as "sand" (with <1% organic matter). 	
Tank Mixes Crop Protect Direct Sulfen 4SC can be split-applied or mixed with burndown herbicides to control emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).	

MINT

Application Timing <ul style="list-style-type: none"> • Apply to established strands of dormant mint or newly planted mint in the fall or spring, prior to emergence of new growth. 	
Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 4.5 - 6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre • >3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 6.0 - 8.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre • >3.0% Organic Matter: 10.1 - 12.0 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 8.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 10.1 fl. oz./acre • >3.0% Organic Matter: 12.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	Important <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 4SC with specific local varieties of mint.
Application Instructions <ul style="list-style-type: none"> • Dormant Applications: Apply Crop Protect Direct Sulfen 4SC to established stands of mint in the spring after cultivation is complete, or in the fall after post-harvest cultivation and prior to new growth. Split applications can be made for pre-emergence control of winter and spring annual weeds. • New Planting Applications: Reduce the rate of application by 25% of the specified rate for newly established mint. Apply Crop Protect Direct Sulfen 4SC to both weeds and newly established mint. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). • Moisture (rain or overhead irrigation) is required to activate Crop Protect Direct Sulfen 4SC and move it into the soil. 	
Application Restrictions <ul style="list-style-type: none"> • Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application." • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. • Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). • Do not apply Crop Protect Direct Sulfen 4SC if mint has emerged. • Do not use on soils classified as "sand" (with <1% organic matter). • Do not apply to mint fields under stress from disease, culture, environment, or disease. 	
Tank Mixes Crop Protect Direct Sulfen 4SC can be mixed with burndown herbicides to control emerged weeds. Adding a surfactant to the tank mix will enhance weed control. Use the most restrictive label and precautions of the tank mix product(s).	

PEANUTS**(Southeastern United States Only: AL, GA, MS, NC, SC, VA)**

<p>Application Timing</p> <ul style="list-style-type: none"> Make pre-plant incorporated applications to peanuts up to 14 days prior to planting or up to 12 hours after planting. <p>Application Rates To control Amaranth (spleen), Copperleaf (hophornbeam), Croton (tropic), Crownbeard (golden), Devils Claw, Jimsonweed, Lambsquarters (common), Morningglory (entireleaf & red), apply the following amounts of Crop Protect Direct Sulfen 4SC:</p> <ul style="list-style-type: none"> Coarse Textured Soils: 4.8 fl. oz./acre Medium or Fine Textured Soils: 6.4 fl. oz./acre <p>To control Amaranth (palmer), Crabgrass (large & Southern), Eclipta, Goosegrass, Morningglory (pitted & smallflower), Poinsettia (wild*), Redweed, apply the following amounts of Crop Protect Direct Sulfen 4SC:</p> <ul style="list-style-type: none"> Coarse Textured Soils: 6.4 fl. oz./acre Medium or Fine Textured Soils: 8.0 fl. oz./acre <p>To control Anoda (spurred), Cocklebur (common), Nutsedge (yellow & purple**), Purslane (common), Sida (prickly), Starbur (prickly), apply the following amounts of Crop Protect Direct Sulfen 4SC:</p> <ul style="list-style-type: none"> Coarse Textured Soils: 8.0 fl. oz./acre Medium or Fine Textured Soils: 9.6 fl. oz./acre <p>*Application rates for wild poinsettia will control initial germination and several continuing germinations. **Application rates will control purple nutsedge if applied pre-plant incorporated. Partial control (up to 85%) will occur with pre-emergence applications; other application methods will result in 71%-84% control.</p> <p>See Soil Categories chart for additional information.</p>	<p>Important</p> <ul style="list-style-type: none"> Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 4SC with specific local varieties of peanut.
<p>Application Instructions</p> <ul style="list-style-type: none"> Apply Crop Protect Direct Sulfen 4SC broadcast or banded. If making a broadcast application, apply Crop Protect Direct Sulfen 4SC in a minimum of 10 gallons of water per acre. If making a banded application, proportionately adjust the use rate according to the band width. If making a pre-plant incorporated application, mix thoroughly or incorporate Crop Protect Direct Sulfen 4SC into the soil no deeper than 2". Use the next lower application rate if soil pH is >7. 	
<p>Application Restrictions</p> <ul style="list-style-type: none"> Do not apply more than 9.6 fl. oz. product per acre (0.3 lb. a.i./acre) per single application. Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.8 fl. oz./acre Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. Do not apply more than 9.6 fl. oz. product per acre (0.3 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). Do not use on soils classified as "sand" (with <1% organic matter). Do not irrigate crops treated with Crop Protect Direct Sulfen 4SC with water if soil pH is >9. Do not feed livestock peanut forage or hay that has been treated with Crop Protect Direct Sulfen 4SC. Do not apply Crop Protect Direct Sulfen 4SC to peanut tissue or "at-crack". 	
<p>Tank Mixes Tank mix Crop Protect Direct Sulfen 4SC with grass herbicides registered for use on peanuts for optimal weed control. Apply Crop Protect Direct Sulfen 4SC with a post-emergent peanut herbicide for hard to control weeds and/or excessive weed pressure. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).</p>	

POTATOES

<p>Application Timing</p> <ul style="list-style-type: none"> Make pre-emergence applications by ground or aerial application. Apply to soil surface before potatoes emerge, but after planting and drag off. 	
<p>Application Rates Coarse Textured Soils:</p> <ul style="list-style-type: none"> ≤ 3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre >3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre <p>Medium Textured Soils:</p> <ul style="list-style-type: none"> <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre >3.0% Organic Matter: 5.25 - 6.75 fl. oz./acre 	<p>Important</p> <ul style="list-style-type: none"> Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 4SC with specific local varieties or cultivars of potatoes.

<p>Fine Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.75 - 5.25 fl. oz./acre • 1.5%-3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre • >3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre <p>See Soil Categories chart for additional information.</p>	<ul style="list-style-type: none"> • Sangre, Shepody, and Snowden varieties of potatoes have demonstrated sensitivity to Crop Protect Direct Sulfen 4SC. Test potato varieties to ensure crop tolerance. • Moisture (rain or irrigation) should occur post-application for Crop Protect Direct Sulfen 4SC to penetrate soil. • Crop injury can occur from irrigation with alkaline water with pH <7.5. • The amount of Crop Protect Direct Sulfen 4SC available in soil will significantly increase if irrigation occurs with water with a high pH. • Younger or stressed crops, or crops treated with higher rates of Crop Protect Direct Sulfen 4SC are more susceptible to crop injury from higher pH irrigation water. The potential for crop injury decreases as plant growth increases.
<p>Application Instructions</p> <ul style="list-style-type: none"> • Apply Crop Protect Direct Sulfen 4SC before potatoes emerge to avoid crop injury. • Mix Crop Protect Direct Sulfen 4SC in a minimum of 5 gallons of water for aerial applications; use a minimum of 10 gallons of water for ground application. • If dry conditions exist for 7 days post-application, incorporate Crop Protect Direct Sulfen 4SC into the soil to a depth no more than 2". • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). • Chemigation Applications: Crop Protect Direct Sulfen 4SC can be applied pre-emergence by chemigation. Use enough water to cover soil surface, but do not apply to point of runoff (¼" - ½"/acre). Apply Crop Protect Direct Sulfen 4SC through solid set, lateral move, end tow, hand-move or center-pivot sprinkler irrigation systems. During chemigation, Crop Protect Direct Sulfen 4SC can be applied with other approved products used for chemigation in potatoes. 	
<p>Application Restrictions</p> <ul style="list-style-type: none"> • Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.0 fl. oz./acre. • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. • Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). • Do not apply Crop Protect Direct Sulfen 4SC to emerged potatoes. • Do not use on soils classified as "sand" (with <1% organic matter). 	
<p>Tank Mixes</p> <p>Crop Protect Direct Sulfen 4SC can be mixed with other soil-applied herbicides to control emerged weeds not controlled by Crop Protect Direct Sulfen 4SC. Crop Protect Direct Sulfen 4SC can be mixed with burndown herbicides and adjuvants labeled for use on potatoes to control emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).</p>	

RHUBARB

<p>Application Instructions</p> <ul style="list-style-type: none"> • Apply 8 fl. oz./acre (0.25 lb. a.i./acre). • Make one post-emergence application just before Rhubarb plants break dormancy at 80 (+/- 5) days before harvest. • Apply in a minimum of 10 gallons of water per acre. 	
<p>Application Restrictions</p> <ul style="list-style-type: none"> • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. • PHI 80 days • Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). • Do not make more than one application per acre of Crop Protect Direct Sulfen 4SC in a 12-month period. • Do not use on soils classified as "sand" (with <1% organic matter). 	

SOYBEANS

<p>Application Timing</p> <ul style="list-style-type: none"> • Apply pre-emergence or pre-plant incorporated in the spring, or in the fall before planting. • Apply to the soil surface in the spring either pre-plant incorporated or pre-emergence up to 3 days after planting. 	
<p>Application Rates</p> <p>Coarse Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 4.5 - 6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre • >3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre <p>Medium Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 6.0 - 8.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre • >3.0% Organic Matter: 10.1 - 12.0 fl. oz./acre <p>Fine Textured Soils:</p> <ul style="list-style-type: none"> • <1.5% Organic Matter: 8.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 10.1 fl. oz./acre 	<p>Important</p> <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 4SC with specific varieties or cultivars of soybeans. • Crop injury can occur under stressed conditions such as disease, cool temperature, soil pH >7.5, prolonged/excessive moisture, and/or poor agronomic practices.

<ul style="list-style-type: none"> • >3.0% Organic Matter: 12.0 fl. oz./acre 	
See Soil Categories chart for additional information.	
Application Instructions <ul style="list-style-type: none"> • In the spring, apply in conventional, conservation, or reduced or no-tillage cropping systems. • If making pre-plant incorporated application in the spring, mix thoroughly and shallowly incorporate into the soil. • In the fall, apply in conservation and no-tillage cropping systems for burndown of existing crop stubble and weeds and for pre-emergence control of weeds. For best results, fall treatments should be followed up with a spring herbicide application in the following crop season as needed. Apply when temperatures are 55°F to a soil depth of 4". If using a ridge till production system, form ridges or beds prior to application. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). • Ground or aerial applications: Mix Crop Protect Direct Sulfen 4SC in water to make a minimum of 5 gallons of spray solution for aerial application or 10 gallons for ground applications. Use enough spray volume to adequately cover soil. Apply with nozzles that produce a minimum amount of fine droplets, but also allow adequate soil coverage. • Observe the following date restrictions: <ul style="list-style-type: none"> - Areas north of I-90: Apply after September 30th. - Areas north of I-70: Apply after October 15th. - Areas South of I-70: Do not apply in the fall. 	
Application Restrictions <ul style="list-style-type: none"> • Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application. • Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre. • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. • Do not feed treated soybean forage or soybean hay to livestock. • Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when Crop Protect Direct Sulfen 4SC is first applied). • Do not apply Crop Protect Direct Sulfen 4SC after soybean seeds germinate, seedlings close to soil surface or emerged seedlings. • Do not use on soils classified as "sand" (with <1% organic matter). • Do not incorporate Crop Protect Direct Sulfen 4SC to a depth >2". • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. 	
Tank Mixes Crop Protect Direct Sulfen 4SC can be mixed with burndown herbicides to control emerged weeds. If applying in the fall, mix products with water to make a minimum of 20 gallons of finished spray per acre. If weeds are emerged, COC or MSO adjuvants can be added to the mix for enhanced burndown activity. If applying in the spring, Crop Protect Direct Sulfen 4SC can be tank mixed with or followed by an application of a post-emergence soybean herbicide. Adding a surfactant to the tank mix will enhance weed control. Use the most restrictive label and precautions of the tank mix product(s).	

SUCCULENT PEAS

Cajanus cajan (includes pigeon pea); *Cicer* spp. (includes chickpea and garbanzo bean); *Lens culinaris* (lentil); *Pisum* spp. (includes dwarf pea, garden pea, green pea, English pea, field pea, and edible pod pea)

Application Rates Coarse Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 2.25 - 3.75 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre • >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre Medium Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre • >3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre Fine Textured Soils: <ul style="list-style-type: none"> • <1.5% Organic Matter: 3.75-6.0 fl. oz./acre • 1.5%-3.0% Organic Matter: 4.5-6.0 fl. oz./acre • >3.0% Organic Matter: 5.25-6.0 fl. oz./acre 	Important <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use. • Consult with university or extension weed management specialists for information on using Crop Protect Direct Sulfen 4SC with specific local varieties or cultivars of succulent peas. • Planting less than 1" in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
See Soil Categories chart for additional information.	
Application Instructions <ul style="list-style-type: none"> • Make pre-emergence application of Crop Protect Direct Sulfen 4SC in a minimum of 10 gallons of finished spray per acre. • Apply with ground equipment. • Wait a minimum of 7 days after application to plant in coarse textured soils with <1.5% organic matter. • Reduce rate of Crop Protect Direct Sulfen 4SC on coarse textured soil with organic matter <1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize crop injury. • Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0). 	
Application Restrictions <ul style="list-style-type: none"> • Do not make more than one application of Crop Protect Direct Sulfen 4SC per year. • Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil. • Do not use on soils classified as "sand" (with <1% organic matter). 	

- Do not apply more than 6.0 fl. oz. product per acre (0.1875 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not apply **Crop Protect Direct Sulfen 4SC** if succulent peas have emerged.
- Do not apply to succulent peas in extended periods of dry weather.
- Do not incorporate **Crop Protect Direct Sulfen 4SC** into the soil.

SUGARCANE**Application Timing**

- Apply pre-emergence to newly planted sugarcane.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 4.5 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 8.3 fl. oz./acre
- >3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 6.0 - 8.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre
- >3.0% Organic Matter: 10.1 - 12.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 8.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 10.1 fl. oz./acre
- >3.0% Organic Matter: 12.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 4SC** with specific varieties or cultivars of sugarcane.

Application Instructions

- Make pre-emergent application to ratoon or newly planted sugarcane, or to sugarcane at lay-by timing (direct spray).
- Pre-emergent applications can be made broadcast, banded, aerially or with ground equipment.
- If making aerial application, apply in a minimum of 5 gallons of spray per acre.
- If making ground application, apply in a minimum of 15 gallons of spray per acre.
- For all applications, use the higher rate within the specified rate range if soil is >2% organic matter or is clay.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0) and lower rates within the specified rate range with higher soil pH (>7.0).

Application Restrictions

- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not use on soils classified as "sand" (with <1% organic matter).
- Do not allow **Crop Protect Direct Sulfen 4SC** to contact crop leaves.
- Pre-Harvest Interval (PHI): 120 days.

Tank Mixes

Crop Protect Direct Sulfen 4SC can be applied with other herbicides and insecticides registered for use on sugarcane to control emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

SUNFLOWER**Application Timing**

- Make pre-plant applications in the fall before spring planting.
- Fall applications allowed in the states of: CO, KS, MN, MT, ND, NE, SD, and WY.
- Make early pre-plant, pre-emergence, and/or pre-plant incorporated applications in the spring prior to planting up to 3 days after planting.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 3.0 - 3.75 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre
- >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 4.5 - 6.75 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.75-5.25 fl. oz./acre
- 1.5%-3.0% Organic Matter: 4.5-6.75 fl. oz./acre
- >3.0% Organic Matter: 6.0-8.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 4SC** with specific local varieties or cultivars of sunflowers.
- Planting less than 1" in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Moisture (rain or irrigation) should occur post-application for **Crop Protect Direct Sulfen 4SC** to penetrate soil.

Application Instructions

- Apply to stubble or soil surface pre-plant incorporated in the fall.
- Fall applications allowed in the states of: CO, KS, MN, MT, ND, NE, SD, and WY.
- For fall applications, use a mid-high rate within the specified rate range for your soil type and for applications in the spring greater than 3 weeks before planting - use a high rate range for your soil type because of the extended time period between application and planting.
- Make early pre-plant, pre-emergence, and/or pre-plant incorporated applications in the spring prior to planting up to 3 days after planting (if seed furrow is completely closed and seedling have not broken the soil surface).
- Wait a minimum of 7 days after application to plant in coarse textured soils with <1.5% organic matter.
- If making pre-plant incorporated application in the spring to reduced or conventional tillage sunflowers, mix thoroughly or shallowly incorporate **Crop Protect Direct Sulfen 4SC** into the soil.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0 and lower rates within the specified rate range with higher soil pH (>7.0)).

Application Restrictions

- Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 4.0 fl. oz./acre.
- Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not incorporate **Crop Protect Direct Sulfen 4SC** into the soil deeper than 2".
- Do not disturb the soil surface after **Crop Protect Direct Sulfen 4SC** treatment.
- Do not use on soils classified as "sand" (with <1% organic matter).
- Do not apply **Crop Protect Direct Sulfen 4SC** to frozen or snow-covered soil.

Tank Mixes

Crop Protect Direct Sulfen 4SC can be tank mixed or split-applied with burndown herbicides to control emerged weeds. **Crop Protect Direct Sulfen 4SC** can be tank mixed with other herbicides registered for use on sunflowers to enhance weed control and suppression. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

TOBACCO**(Burley, Flue-Cured and Dark)****Application Timing**

- Make pre-plant incorporated applications or pre-emergence applications to tobacco transplants.
- Fall applications allowed in the states of: CO, KS, MN, MT, ND, NE, SD, and WY.
- Make early pre-plant, pre-emergence, and/or pre-plant incorporated applications in the spring prior to planting up to 3 days after planting.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 4.5 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre
- >3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 6.0 - 8.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 8.0 - 10.1 fl. oz./acre
- >3.0% Organic Matter: 10.1 - 12.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 8.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 10.1 fl. oz./acre
- >3.0% Organic Matter: 12.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 4SC** with specific local varieties or cultivars of tobacco.
- Poor growing conditions (diseases, low temperature, soil compaction/pH, excessive moisture, drought, poor agronomic practices or other unfavorable conditions) can also cause adverse crop response.
- If heavy rainfall occurs after transplant or transplants are set shallowly in soil temporary stunting can occur.
- Observe responsible transplanting practices to avoid exposure of transplants to **Crop Protect Direct Sulfen 4SC** to avoid crop injury.

Application Instructions

- Make broadcast applications to the soil surface pre-plant or pre-plant incorporated in a minimum of 10 gallons of finished product per acre from 14 days to 12 hours before transplanting tobacco.
- If making pre-plant incorporated application, mix thoroughly or shallowly incorporate **Crop Protect Direct Sulfen 4SC** into the soil.
- If applying in non-bedded fields (raised beds not formed prior to transplanting) and making a soil surface application of **Crop Protect Direct Sulfen 4SC**, use light finishing equipment to remove equipment tracks from the field post-application.
- If applying to bedded fields (raised beds formed prior to transplanting), any dragging or knocking down of beds prior to transplanting must occur prior to application of **Crop Protect Direct Sulfen 4SC**.
- New tobacco transplants can be replanted if the first transplant does not produce a uniform stand. If replanted: 1) Do not re-treat fields with a second application of **Crop Protect Direct Sulfen 4SC** or any other sulfentrazone-containing product; 2) Do not reform beds prior to replanting; plant new transplants into existing beds that have already been treated with **Crop Protect Direct Sulfen 4SC**.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0 and lower rates within the specified rate range with higher soil pH (>7.0)).

Application Restrictions

- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.

- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not incorporate **Crop Protect Direct Sulfen 4SC** into the soil deeper than 2".
- Do not disturb soil once incorporated.
- Do not perform other tillage practices that could concentrate **Crop Protect Direct Sulfen 4SC** into the soil.
- Do not disturb the soil surface after **Crop Protect Direct Sulfen 4SC** treatment.
- Do not use on soils classified as "sand" (with <1% organic matter).
- Do not apply **Crop Protect Direct Sulfen 4SC** post-transplant.
- Do not apply to shade grown tobacco, tobacco seedling beds, or tobacco in greenhouses.
- Do not apply **Crop Protect Direct Sulfen 4SC** to frozen or snow-covered soil.
- Pre-Harvest Interval (PHI): 14 days

Tank Mixes

Crop Protect Direct Sulfen 4SC can be tank mixed with a grass herbicide for optimal control of emerged weeds. Refer to the tank mix partner's label for the proper use rates by weed size. Use the most restrictive label and precautions of the tank mix product(s).

TOMATO**(Transplanted Only)****Application Timing**

- Make pre-emergence applications to tomato transplants.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 3.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 6.0 - 4.5 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 fl. oz./acre
- >3.0% Organic Matter: 8.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 6.0 - 8.0 fl. oz./acre
- >3.0% Organic Matter: 8.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 4SC** with specific local varieties or cultivars of tomato.

Application Instructions

- Make banded or broadcast applications before transplanting tomatoes.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0 and lower rates within the specified rate range with higher soil pH (>7.0).

Application Restrictions

- Do not apply more than 8 fl. oz. product per acre (0.25 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not apply **Crop Protect Direct Sulfen 4SC** to frozen or snow-covered soil.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not use on soils classified as "sand" (with <1% organic matter).

TREE NUTS

Crop Group 14: Almond, Beech Nut, Brazil Nut, Bitternut, Cashew, Chinquapin, Filbert (Hazelnut), Hickory Nut, Macadamia Nut (Bush Nut), Pecan, Pistachio, and Walnut (Black and English)

Application Timing

- Make a broadcast soil application when weeds are not present and/or a post-emergence herbicide has been tank mixed with **Crop Protect Direct Sulfen 4SC**.
- Make applications to crops that have been established for one full growing season and are healthy and vigorous.
- Apply **Crop Protect Direct Sulfen 4SC** when soil is moist and application will be followed by ½" rainfall or irrigation within two weeks after application.
- Time applications to take advantage of normal rainfall and cool temperatures, especially if using drip or micro sprinkler irrigation is used which may not provide uniform incorporation into the soil.

Application Instructions

- Apply with ground application equipment only.
- Make a uniform broadcast soil application to orchard and vineyard floors, to berry beds, and furrows.
- Apply in a minimum of 10 gallons of spray solution per acre. The spray solution pH should be 5.0-9.0; nozzles must meet manufacturer's spray volume and pressure specifications for pre-emergence and post-emergence herbicide applications.
- Wrap the trunks of green bark, young vines, and trees with a non-porous wrap, grow tubes, or wax containers to avoid **Crop Protect Direct Sulfen 4SC** contact with green tissue.

- Apply as a uniform band application directed to the base of the tree trunk in trees and vines and to the base of the berry and beds in berries.
- **Broadcast Applications:** Make a single application of 4-12 fl. oz./acre (0.125-0.375 lb. a.i./acre).
- **Banded Applications:** Refer to the following chart for the appropriate rate and volume of **Crop Protect Direct Sulfen 4SC** to be applied. **Crop Protect Direct Sulfen 4SC** can be applied twice in one year. For band treatments, apply the broadcast rate and volume per acre. To determine these:

$$\text{Band Rate} = \frac{\text{Band Width (Ft.)}}{\text{Row Within Feet}} \times \text{Broadcast Rate/Acre}$$

$$\text{Band Volume} = \text{Band Width Feet} \times \text{Broadcast Volume/acre}$$

Application Restrictions

- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.
- Do not apply more than 2 applications of this product per year when using reduced application rates equal or less than 6.0 fl. oz./acre.
- Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not apply **Crop Protect Direct Sulfen 4SC** to green tissue, crop foliage, or fruit.
- Do not make aerial applications.
- Do not apply after petal fall unless using a hooded or shielded sprayer to avoid contact with foliage and fruit.
- Do not apply when heavy crop trash is present (leaves/branches/weed residue). Clean the area to be treated prior to applying **Crop Protect Direct Sulfen 4SC**.
- Do not apply to powdery soils or soils where windy conditions may displace soil unless soil can be irrigated immediately after treatment.
- Pre-Harvest Interval (PHI): 3 days
- If two banded treatments are made, wait a minimum of 60 days between applications. Do not exceed the annual maximum use rate.

Tank Mixes

Crop Protect Direct Sulfen 4SC can be tank mixed with other pre-emergence and post-emergence burndown herbicides labeled for use on listed crops. Refer to the tank mix partner label for the proper use directions and restrictions. Use the most restrictive label and precautions of the tank mix product(s). Do not tank mix sulfentrazone-containing products with flumioxazin.

Replanting in New or Established Orchards and Vineyards

Wait at least 30 days after applying **Crop Protect Direct Sulfen 4SC** before replanting trees and vines in newly planted and established orchards and vineyards. Use untreated soil when replanting trees and vines.

Control/Suppression of Sedge/Nutsedge

- Make a post-emergence application of **Crop Protect Direct Sulfen 4SC** at 12 fl. oz./acre (0.375 lb. a.i./acre).
- Use a 25% v/v non-ionic surfactant (NIS).
- Post-emergence applications are most effective since **Crop Protect Direct Sulfen 4SC** is absorbed into the plant through the foliage and roots.
- Pre-emergence applications of **Crop Protect Direct Sulfen 4SC** will suppress sedges, but will not provide complete control.
- For optimal control of purple nutsedge, make split applications of **Crop Protect Direct Sulfen 4SC**. Make an initial application of 4-6 fl. oz./acre followed by a 2nd application to actively growing purple nutsedge. DO NOT exceed the maximum application rate of 12 fl. oz./acre (0.375 lb. a.i./acre). Optimal control may not occur until the 2nd year after the initial application of **Crop Protect Direct Sulfen 4SC**.

TURNIPS**Application Instructions**

- Apply 8 fl. oz./acre (0.25 lb. a.i./acre).
- Make one post-emergence application 40-60 days before harvest.
- Apply in 10-40 gallons of water per acre.

Application Restrictions

- Do not apply more than 8.0 fl. oz. product per acre (0.25 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not make more than one application per acre of **Crop Protect Direct Sulfen 4SC** in a 12-month period.
- Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered snow.
- Do not use on soils classified as "sand" (with <1% organic matter).

WHEAT (Spring)

(Pacific Northwest states of ID, OR, and WA only)

Application Instructions

- Apply 6 fl. oz./acre (0.188 lb. a.i./acre).
- Make one pre-plant or pre-emergence application 40-60 days before forage cutting and 120 days before grain harvest.
- Apply in 10-40 gallons of water per acre.

Application Restrictions

- Do not apply Crop Protect Direct Sulfen 4SC to frozen or snow-covered soil.
- Do not apply more than 6.0 fl. oz. product per acre (0.188 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 4SC** is first applied).
- Do not make more than one application per acre of **Crop Protect Direct Sulfen 4SC** in a 12-month period.

- Do not use on soils classified as "sand" (with <1% organic matter).

VEGETABLE SOYBEAN (EDAMAME)**Application Timing**

- Make pre-emergence applications to edamame.

Application Rates**Coarse Textured Soils:**

- <1.5% Organic Matter: 2.25 - 3.75 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.0 - 4.5 fl. oz./acre
- >3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre

Medium Textured Soils:

- <1.5% Organic Matter: 3.0 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 3.75 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre

Fine Textured Soils:

- <1.5% Organic Matter: 3.75 - 6.0 fl. oz./acre
- 1.5%-3.0% Organic Matter: 4.5 - 6.0 fl. oz./acre
- >3.0% Organic Matter: 5.25 - 6.0 fl. oz./acre

See Soil Categories chart for additional information.

Important

- Read and follow all precautions, instructions, rotation crop guidelines, replanting instructions, and any other information listed on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Crop Protect Direct Sulfen 45C** with specific local varieties or cultivars of edamame.
- Optimum control may not be achieved under dry weather conditions.
- Poor growing conditions (diseases, low temperature, soil compaction/pH, excessive moisture, drought, poor agronomic practices or other unfavorable conditions) can also cause adverse crop response.
- Inadequate seed furrow closure and shallow planting (less than 1.0") can result in crop injury.

Application Instructions

- Apply 6.0 fl. oz./acre (0.1875 lb. a.i./acre) **Crop Protect Direct Sulfen 45C**.
- Apply using ground equipment in a minimum of 10 gallons of water.
- Use rate is inversely dependent upon soil pH - use higher rates within the specified rate range with lower soil pH (<7.0 and lower rates within the specified rate range with higher soil pH (>7.0).
- If applying **Crop Protect Direct Sulfen 45C** to coarse soil with <1.5% organic matter, wait a minimum of 7 days after application before planting.
- Crop injury may occur when **Crop Protect Direct Sulfen 45C** is applied to textured soil with low organic matter (<1.5%) and soil pH >7.8, or on highly eroded soils, or in areas of calcareous outcroppings. Use the lowest rate within the specified rate range under these conditions.

Application Restrictions

- Do not apply more than one application per year.
- Do not apply Crop Protect Direct Sulfen 45C to frozen or snow-covered soil.
- Do not apply more than 6.0 fl. oz. product per acre (0.1875 lb. a.i./acre) per year (12-month period from when **Crop Protect Direct Sulfen 45C** is first applied).
- Do not use on soils classified as "sand" (with <1% organic matter).
- Do not incorporate into the soil.

STORAGE AND DISPOSAL

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

Pesticide Storage

STORE ABOVE -4°F TO KEEP PRODUCT FROM FREEZING. If frozen, thaw before use. Observe recirculation directions under Mixing and Handling Instructions for Bulk/Mini-Bulk Containers. Keep out of reach of children and animals. Store in original containers only. Store in a dry place. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. To confine spill: Dike surrounding area or absorb with sand, cat litter or commercial clay. Place damaged package in a holding container. Identify contents.

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. 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 [Non-Refillable Plastic Containers ≤5 gal] Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Container Handling [Non-Refillable Plastic Containers >5 gal] Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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. Turn the container over onto its other 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. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration.

[Nonrefillable Plastic (e.g., Intermediate Bulk Containers [IBC]) (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down)] Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into formulation equipment and before final disposal using the following pressure rinsing procedure: Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure spray duration and/or spray volume. If the manufacturer's instructions are not available pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain pour or pump rinsate into formulation equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Container Handling [For Bulk and Mini-Bulk Containers]

Refillable container. Refill this container with pesticide only. Do not use 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 person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by State and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

WARRANTY AND DISCLAIMER STATEMENT

JABCO, LLC, warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use herein described when used in accordance with the directions for use. The Directions For Use are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with 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 JABCO, LLC, or the SELLER. To the extent consistent with applicable law, JABCO, LLC., shall not be liable for the consequential, special or indirect damages resulting from the handling or use of this product. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

Except as expressly provided herein, JABCO, LLC, makes no warranties, guarantees, or representations of any kind, either express or implied, or by usage of trade, statutory or otherwise, with regard to the product sold, including but not limited to, merchantability, fitness for a particular purpose, use or eligibility of the product for any particular trade usage

All trademarks are the property of their respective owners.

Pages 75-83 - Sub-Label D:

SULFENTRAZONE	GROUP	14	HERBICIDE
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Crop Protect Direct Sulfen 4SC

ABN: Crop Protect Direct Sulfen 4SC Herbicide

Non-Crop Only

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

ACTIVE INGREDIENT:

WT. BY %

Sulfentrazone: N-{2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazole-1-yl]
phenyl}methanesulfonamide

39.6%

OTHER INGREDIENTS: 60.4%

TOTAL: 100.0%

It is a Suspension Concentrate, Contains 4.0 lbs. active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCIÓN

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.)

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • 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.
EMERGENCY NUMBERS	
<p>Emergency - You may also contact the Poison Control Center at 1-800-222-1222 for emergency medical treatment information. Non-emergency-National Pesticides Information Center (NPIC) : 1-800-858-7378, Monday through Friday, 8 AM to 12 PM PST, or at http://npic.orst.edu. For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)</p>	

[Optional referral statements when booklets and container labels are used:

See Panel for First Aid Instructions and booklet for complete Precautionary Statements and Directions for Use.

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

See label booklet for additional Precautionary Statements, Directions For Use, and Storage and Disposal.

See label booklet for complete Directions For Use.]

Manufactured [For/by]:

JABCO, LLC
550 W Pioneer Blvd, Suite 140
Mesquite, NV 89027

EPA Reg. No. 101458-18

EPA Est.: _____

Net Contents: _____ [Gallons/Liters]

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, polyvinyl chloride ≥14 mils, or Viton ≥14 mils
- Shoes plus socks

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands thoroughly after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

Do not apply this product through any type of irrigation system. 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.

DO NOT exceed specified label rates listed in this label. Refer to the directions for use for maximum use rates for specific crops. Calculate the 12-month period for the purpose of maximum use rates from the time that this product is first applied.

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

ENVIRONMENTAL HAZARDS

This product 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. Do not apply when weather conditions favor drift from the area treated. Do not apply where runoff is likely to occur. Do not contaminate water when disposing of equipment washwaters. Apply this product only as specified on this label.

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 this product on coarse soils, such as sand, which has 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 months post application. These include poorly draining or wet soils with readily visible slopes towards adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filler strips, and areas over-lying tile drainage systems that drain to surface waters.

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
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride ≥ 14 mils, or Viton® ≥ 14 mils
- 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.

Do not enter or allow others to enter treated areas until sprays have dried.

PRODUCT INFORMATION

Crop Protect Direct Sulfen 4SC is a soil-applied selective herbicide that controls specific grasses, sedges, and broadleaf weeds. Sulfentrazone, the active ingredient in this product, inhibits a plant enzyme that is required for producing chlorophyll. Disabling this enzyme causes the release of singlet oxygen (O) which disrupts cellular membranes, causing cell leakage and cell death, which ultimately results in weed death.

PROPER HANDLING INSTRUCTIONS

Restrictions:

- Do not mix or load **Crop Protect Direct Sulfen 4SC** within 50 feet of any well, including abandoned wells, 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 wells and does not apply to impervious pads or properly diked mixing/loading areas.
- Do not apply this product through any type of irrigation system. Do not use flood irrigation to apply or incorporate this product.

Operations that involve mixing, loading, rinsing, or washing to **Crop Protect Direct Sulfen 4SC** into or from pesticide handling or application equipment or container 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 washwater 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 a minimum of 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.

Crop Protect Direct Sulfen 4SC must be used in a manner which will prevent back siphoning in wells, spills, or improper disposal of excess pesticide, spray mixtures or rinsates.

APPLICATION INSTRUCTIONS

See the crop specific instructions below for additional use precautions/restrictions.

Make broadcast applications of **Crop Protect Direct Sulfen 4SC** at specified rates in early spring, late summer, or fall for optimal results. Apply in adequate water to provide thorough coverage to make at least 10 gallons finished spray per acre. Use water as the carrier if **Crop Protect Direct Sulfen 4SC** is applied alone or in a tank-mix.

Make **Crop Protect Direct Sulfen 4SC** application using boom and nozzle sprayers or boomless application systems. Make application at spray pressure of ≤ 25 PSI, unless otherwise specified by the manufacturer. Use appropriate and calibrated nozzles, spray tips, and screens for minimum amounts of fine spray droplets, and optimal spray delivery and coverage.

Applications to railroad rights-of-way can be made by helicopter. Do not allow spray to drift to adjacent plants or plant injury can occur.

When activated, **Crop Protect Direct Sulfen 4SC** will provide control of listed weeds. The level of controls depends on the weed size and type. Dry weather without rain or irrigation will reduce the effect of **Crop Protect Direct Sulfen 4SC** on germinating weed species. DO NOT apply **Crop Protect Direct Sulfen 4SC** in drought conditions or when rainfall/irrigation is not available.

Weed seedling and germinating weeds absorb **Crop Protect Direct Sulfen 4SC** through the soil. The amount of **Crop Protect Direct Sulfen 4SC** available in the soil will depend on the soil type, soil pH, and amount of organic matter in the soil.

Aerial Application Instructions

Apply **Crop Protect Direct Sulfen 4SC** with appropriate nozzles that provide optimal coverage, minimize drift and keep fine droplets to a minimum. Make application of **Crop Protect Direct Sulfen 4SC** in a volume that is appropriate to provide sufficient coverage. Use a minimum spray volume of 5 gallons per acre. Do not apply **Crop Protect Direct Sulfen 4SC** when wind speed is likely to cause the product to drift outside the target area.

Aerial Application Restrictions

- Aerial application is allowed only when environmental conditions prohibit ground application. Aerial application will be allowed when the field is too wet to safely apply pesticides using ground equipment.
- When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.
- 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.

Ground Application Instructions

Make **Crop Protect Direct Sulfen 4SC** application with a boom and nozzle sprayer that contains the appropriate spray tips, screens, and nozzles. Calibrate application equipment for optimal coverage and spray distribution at the appropriate pressure. Use spray nozzles designed to minimize drift and keep fine spray droplets to a minimum. Make **Crop Protect Direct Sulfen 4SC** application in a minimum spray volume of 10 gallons per acre. Overlapping treatment areas can injure crops. When starting, turning or stopping, slower ground speed of the application equipment can lead to crop injury. **Do not** apply **Crop Protect Direct Sulfen 4SC** when wind speed is likely to cause the product to drift outside the target area.

CALIFORNIA SPECIFIC RESTRICTIONS

Runoff Groundwater Protection Areas: Do not apply **Crop Protect Direct Sulfen 4SC** in areas defined by the California Department of Pesticide Regulation as being "runoff groundwater protection areas*" unless one of the following management practices can be met:

- 1) **Pesticide Incorporation:** Within 48 hours after the day this product is applied, the pesticide shall be incorporated on at least 90% 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 1 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
- 2) **Retention of Runoff on Field:** For 6 months post-application, the field shall be designed to retain all irrigation runoff and all precipitation on, and drainage through the field by berms, levees, or non-draining circulation systems. The retention area on the field shall not have a percolation rate of more than 0.2" per hour (5"/24 hours); or
- 3) **Retention of Runoff in a Holding Area off the Field:** For 6 months post-application, all runoff shall be channeled to a holding area off of 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" per hour (5"/24 hours); or
- 4) **Runoff onto a Fallow Field:** For 6 months post-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 **Crop Protect Direct Sulfen 4SC** 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 groundwater basin), unless this product is applied 6 months or more before the basin is used to recharge groundwater.

Unlined Canals and Ditches

Do not use **Crop Protect Direct Sulfen 4SC** 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 inch per hour (0.002 gallon 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 groundwater 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 Groundwater Protection Areas

Do not use in areas designed by the California Department of Pesticide Regulation as leaching groundwater protection areas* unless either:

- 1) The user does not apply any irrigation water for 6 months following the application of this product; or
- 2) 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
- 3) 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 Groundwater Protection Area or a Leaching Groundwater 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

Application in Combination with Liquid Fertilizers

When applied in combination with a liquid fertilizer **Crop Protect Direct Sulfen 45C** will control listed weeds. Seek local advice for fertilizers best suited to your area (i.e., urea or UAN solutions).

Use Directions for Mixing Crop Protect Direct Sulfen 45C with Herbicides or Liquid Fertilizer Combination

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

- Prior to combining the liquid fertilizer/herbicide and **Crop Protect Direct Sulfen 45C** in the application tank, carry out a 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). Combine **Crop Protect Direct Sulfen 45C** and the carrier liquid fertilizer/herbicide as follows:

1. Fill a clean spray tank $\frac{1}{2}$ full of fertilizer solution.
2. Begin agitation of the fertilizer solution.
3. Use a clean container to create a slurry of **Crop Protect Direct Sulfen 45C** and water (equal parts of both)*.
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 **Crop Protect Direct Sulfen 45C**/water slurry must be mixed thoroughly prior to application.

*For best mixing of the **Crop Protect Direct Sulfen 45C**/water slurry, add the slurry using induction systems on the spray fill plumbing system.

Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates, timings, and other restrictions.

Application Instructions for Crop Protect Direct Sulfen 45C Mixed with Liquid Fertilizers

- The spray application solution must be applied immediately following preparation.
- Maintain agitation throughout mixture and application.
- Do not store spray solution in the spray tank for an extended period of time, or overnight.
- A combination of **Crop Protect Direct Sulfen 45C** and liquid fertilizer must not be premixed in nurse tanks.
- Applicators/sellers of liquid fertilizer must follow State regulations for liquid fertilizers, including those regarding preparation, blending, registration, transportation, selling, treatment, and storage.
- Apply the herbicide solution immediately following mixing.
- Maintain mixing throughout application.
- Do not store spray solution in the spray tank for an extended period of time or overnight.
- A tank mixture containing **Crop Protect Direct Sulfen 45C** must not be premixed in nurse tanks.

Cleaning Application Equipment

Crop injury can occur if residues of **Crop Protect Direct Sulfen 45C** are left in the spray tank following application. Application equipment must be cleaned immediately after treatment with **Crop Protect Direct Sulfen 45C**, and before applications with other products. Use the following cleaning 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 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.
 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.
 9. Dispose of rinsate and excess cleaning solution in compliance with Federal, State, and local regulations and guidelines.
- Do not apply rinsate and cleaning solution to sensitive crops.
 - Do not store spray equipment for any extended period of time with **Crop Protect Direct Sulfen 45C** solution remains in the spray lines, nozzles, strainers, or boom plumbing.
 - Flush the nozzles and spray boom with clean water prior to use when application equipment has been idle or sitting in storage.
 - If small amounts of **Crop Protect Direct Sulfen 45C** remain in the equipment after cleaning, **Crop Protect Direct Sulfen 45C** may be released during later applications, which may cause crop injury to certain crops and/or 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.

MANDATORY SPRAY DRIFT MANAGEMENT**Ground Application**

- Utilize a boom and nozzle sprayer equipped with the appropriate nozzles, spray tips and screens and adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures.
- 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 used as a preemergent/preplant application.
- Select medium to very coarse droplet size when used postemergence with a contact burndown herbicide.
- Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE standard).
- Apply a minimum of 10 gallons of finished spray per acre by ground.
- When mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre. Be aware that overlaps and slower ground speeds while starting, stopping or turning while spraying may result in excessive application and subsequent crop response.
- Do not apply when wind speed favors drift beyond the area intended for treatment. Applicators may spray only when wind speed is between 3 and 10 mph.
- For boom spraying, the maximum release height is 30 inches from the soil.

Aerial Application

- Aerial application is allowed only when environmental conditions prohibit ground application.
- When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.
- The maximum release height must be 10 feet from the top of the canopy, unless a greater application height is required for pilot safety.
- 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 used as a preemergent/preplant application. Select medium to very coarse droplet size when used postemergence with a contact burndown herbicide.
- Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE standard).
- Do not apply when wind speed favors drift beyond the area intended for treatment. Applicators may spray only when wind speed is between 3 and 10 mph.

SPRAY DRIFT REDUCTION ADVISORIES

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

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 Droplet Size

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE. Do not exceed the nozzle manufacturer's specified pressures.
- **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 <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 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 affect spray drift.

Temperature and Humidity

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

Temperature Inversions

Applications must 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 temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

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

Off-Target Movement of Crop Protect Direct Sulfen 4SC

Drift of dilute spray mixtures containing Crop Protect Direct Sulfen 4SC 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. Crop Protect Direct Sulfen 4SC can cause significant symptomology by drift on to sensitive crops and other plants. This symptomology may manifest initially as discreet, localized spots where contacted by Crop Protect Direct Sulfen 4SC 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 crops, defoliation of affected foliage could result. Failure to follow these guidelines and environmental prohibitions that then result in off-target movement or drift of Crop Protect Direct Sulfen 4SC on to unintended crops or plants, irrespective of severity, constitutes misapplication of this product. JABCO accepts no responsibility or liability for potential crop effects that may result from such misapplication of Crop Protect Direct Sulfen 4SC.

WEED RESISTANCE MANAGEMENT

For resistance management, **Crop Protect Direct Sulfen 4SC** is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to **Crop Protect Direct Sulfen 4SC** and other Group 14 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance management strategies should be followed.

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

- Rotate the use of **Crop Protect Direct Sulfen 4SC** or other 14 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control

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

• Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include:

- (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- (2) a spreading patch of non-controlled plants of a particular weed species;
- (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields and planting clean seed.

• If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.

• Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.

• For further information or to report suspected resistance, contact JABCO representative at 702 377 8877.

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

Crop Protect Direct Sulfen 4SC will control susceptible weeds, maintain bare ground and complete vegetation control, and provide residual control of germinating weeds in noncropland areas. When applied as indicated on this label, the following weeds will be controlled with **Crop Protect Direct Sulfen 4SC**:

Beggarweed, Florida (<i>Desmodium tortuosum</i>)	Lambsquarters, Common (<i>Chenopodium album</i>)
Carpetweed (<i>Mollugo verticillata</i>)	Lettuce, Wild (<i>Lactuca virosa</i>)
Chickweed, Common (<i>Stellaria media</i>)	Mallow, Common (<i>Malva neglecta</i>)
Copperleaf Hophornbeam (<i>Acalypha ostryifolia</i>)	Mexicanweed (<i>Caperonia castanifolia</i>)
Crabgrass species (<i>Digitaria</i> spp.)	Milkweed, Honeyvine (<i>Ampelamus albidus</i>)
Croton, Tropic (<i>Cretan glandulosus</i>)	Morningglory species (<i>Ipomoea</i> spp.)
Daisy, American (<i>Coreopsis grandiflora</i>)	Mustard species (<i>Brassica</i> spp.)
Dayflower, Common (<i>Commelina communis</i>)	Nightshade species (<i>Solanum</i> spp.)
Dayflower, Virginia (<i>Commelina virginica</i>)	Nutsedge species (<i>Cyperus</i> spp.)
Dock, Curly (<i>Rumex crispus</i>)	Palmer Amaranth (<i>Amaranthus palmeri</i>)
Fixweed (<i>Descurainia sophia</i>)	Pigweed, Redroot (<i>Amaranthus retroflexus</i>)
Galinsoga, Hairy (<i>Galinsoga ciliata</i>)	Pigweed, Smooth (<i>Amaranthus hybridus</i>)
Groundcherry, Clammy (seedling) (<i>Physalis heterophylla</i>)	Texasweed (<i>Caperonia palustris</i>)
Groundcherry, Cutleaf (<i>Physalis angulata</i>)	Thistle, Russian (<i>Salsola iberica</i>)
Jimsonweed (<i>Datura stramonium</i>)	Waterhemp, Common (<i>Amaranthus rudis</i>)
Kochia (<i>Kochia scoparia</i>)	Waterhemp, Tall (<i>Amaranthus tuberculatus</i>)
ALS/Triazine-resistant Kochia (<i>Kochia scoparia</i>)	

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 within the specified rate range:

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

Restrictions

- 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.
- Do not apply more than 12 fl. oz. product per acre (0.375 lb. a.i./acre) per single application.

<p>Do not use on soils with less than 1% organic matter (sandy soils).</p> <p>Tank Mixes Tank mix Crop Protect Direct Sulfen 4SC with burndown herbicides (including 2,4-D, dicamba, diquat, glyphosate, glyphosate trimesium). Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.</p> <p>Adjuvants recommended for tank mix partner can be used.</p>	<ul style="list-style-type: none"> Do not graze or feed forage harvested from Crop Protect Direct Sulfen 4SC Herbicide treated areas. Do not apply to landscape ornamental plants or ornamental beds. Do not apply more than 12.0 fl oz/A (0.375 lb ai/A) in a single application. Do not apply more than three applications per year when using reduced application rate equal to or less than 4.0 fl oz/A of this product. Do not apply to frozen soils or existing snow cover to prevent Crop Protect Direct Sulfen 4SC Herbicide runoff from rain or snowmelt that may occur following application.
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STORAGE AND DISPOSAL

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

Pesticide Storage

STORE ABOVE -4°F TO KEEP PRODUCT FROM FREEZING. If frozen, thaw before use. Observe recirculation directions under Mixing and Handling Instructions for Bulk/Mini-Bulk Containers. Keep out of reach of children and animals. Store in original containers only. Store in a dry place. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. To confine spill: Dike surrounding area or absorb with sand, cat litter or commercial clay. Place damaged package in a holding container. Identify contents.

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. 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 [Non-Refillable Plastic Containers ≤5 gal] Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Container Handling [Non-Refillable Plastic Containers >5 gal] Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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. Turn the container over onto its other 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. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration.

[Nonrefillable Plastic (e.g., Intermediate Bulk Containers [IBC]) (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down)] Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into formulation equipment and before final disposal using the following pressure rinsing procedure: Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure spray duration and/or spray volume. If the manufacturer's instructions are not available pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain pour or pump rinsate into formulation equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Container Handling [For Bulk and Mini-Bulk Containers]

Refillable container. Refill this container with pesticide only. Do not use 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 person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by State and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

WARRANTY AND DISCLAIMER STATEMENT

JABCO, LLC, warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use herein described when used in accordance with the directions for use. The Directions For Use are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with 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 JABCO, LLC, or the SELLER. To the extent consistent with applicable law, JABCO, LLC., shall not be liable for the consequential, special or indirect damages resulting from the handling or use of this product. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

Except as expressly provided herein, JABCO, LLC, makes no warranties, guarantees, or representations of any kind, either express or implied, or by usage of trade, statutory or otherwise, with regard to the product sold, including but not limited to, merchantability, fitness for a particular purpose, use or eligibility of the product for any particular trade usage

All trademarks are the property of their respective owners.

[Page 84: Small Container Base Label]

SULFENTRAZONE	GROUP	14	HERBICIDE
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Crop Protect Direct Sulfen 4SC

Agricultural Uses (Including Sod Farms)

Asparagus, Berries (Crop Group 13-07), Brassica (Head & Stem), Brassica (Leafy Greens), Cabbage (Transplanted Only), Citrus (Crop Group 10), Corn (Field, Seed, Pop), Beans & Peas (Dry Shelled), Flax, Fruiting Vegetables (except cucurbits), Okra, Grapes, Horseradish, Lima Beans (succulent), Melons, Mint, Peanuts, Potatoes, Rhubarb, Soybean, Peas (Succulent), Sugarcane, Sunflower, Tobacco, Tomato, Tree Nuts, Turfgrasses, Turnips, Wheat (Spring), Vegetable Soybean (Edamame), Railroad, Highway, Roadside, Pipeline and Utility Rights of Way, Industrial Areas, Fence Rows, and Other Listed Non-Crop Sites

Turfgrasses and 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

Agricultural Uses

Asparagus, Berries (Crop Group 13-07), Brassica (Head & Stem), Brassica (Leafy Greens), Cabbage (Transplanted Only), Citrus (Crop Group 10), Corn (Field, Seed, Pop), Beans & Peas (Dry Shelled), Flax, Fruiting Vegetables (except cucurbits), Okra, Grapes, Horseradish, Lima Beans (succulent), Melons, Mint, Peanuts, Potatoes, Rhubarb, Soybean, Peas (Succulent), Sugarcane, Sunflower, Tobacco, Tomato, Tree Nuts, Turnips, Wheat (Spring), Vegetable Soybean (Edamame)

Non-Crop Only

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

ACTIVE INGREDIENT:

Sulfentrazone: N-{2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazole-1-yl]phenyl}methanesulfonamide 39.6%

OTHER INGREDIENTS: 60.4%

TOTAL: 100.0%

It is Suspension Concentrate, Contains 4.0 lbs. active ingredient per gallon.

WT. BY %

KEEP OUT OF REACH OF CHILDREN
CAUTION / PRECAUCIÓN

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

Manufactured [For/by]:

JABCO, LLC
550 W Pioneer Blvd, Suite 140
Mesquite, NV 89027

EPA Reg. 101458-18

EPA Est.: _____

Net Contents: _____ [Gallons/Liters]

FIRST AID

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

EMERGENCY NUMBERS: Emergency - You may also contact the Poison Control Center at 1-800-222-1222 for emergency medical treatment information.

Non-emergency - National Pesticides Information Center (NPIC): 1-800-858-7378, Monday through Friday, 8 AM to 12 PM PST, or at <http://npic.orst.edu>.

For Chemical Emergency:

Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Day or Night

Within USA and Canada: 1-800-424-9300 or 1-703-527-3887 (collect calls accepted)

[Optional referral statements when booklets and container labels are used:

See Panel for First Aid Instructions and booklet for complete Precautionary Statements and Directions for Use.

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

See label booklet for additional Precautionary Statements, Directions For Use, and Storage and Disposal.

See label booklet for complete Directions For Use.]

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.