



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

June 26, 2020

Cristina Rodriguez
Senior Registration Manager
FMC Corporation
1090 Elkton Rd (S300/417)
Newark, DE 19711

Subject: Registration Review Label Mitigation for Carfentrazone and Sulfentrazone
Product Name: SPARTAN CHARGE CAL
EPA Registration Number: 279-3458
Application Date: 11/20/2018
Decision Numbers: 563799, 563800

Dear Ms. Rodriguez:

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

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

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

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If you have any questions about this letter, please contact Srijana Shrestha by phone at 703-305-6471, or via email at Shrestha.Srijana@epa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Linda Arrington', with a stylized flourish at the end.

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

Enclosure

CARFENTRAZONE-ETHYL	GROUP	14	HERBICIDE
SULFENTRAZONE	GROUP	14	HERBICIDE

SPARTAN CHARGE CAL Herbicide

Alternate Brand Names: Zeus + Herbicide, Zeus Prime Herbicide

EPA Reg. No. 279-3458

EPA Est. No. _____

Active Ingredient:	By Wt.
Carfentrazone-ethyl*	3.53%
Sulfentrazone**	31.77%
Other Ingredients:	64.70%
Total:	100.00%

*SPARTAN CHARGE CAL Herbicide contains 0.35 pounds per US gallon of the active ingredient Carfentrazone-ethyl.

** SPARTAN CHARGE CAL Herbicide contains 3.15 pounds per US gallon of the active ingredient Sulfentrazone.

U.S. Patent Pending

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

If in Eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

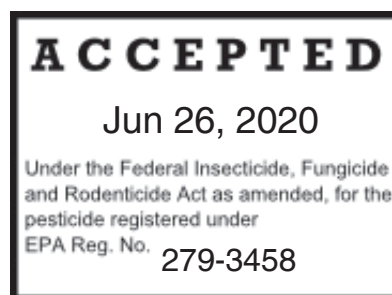
If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If 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.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-331-3148 for emergency medical treatment information.

SOLD BY 
 FMC Corporation
 2929 Walnut Street
 Philadelphia, PA 19104



PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

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

Personal Protective Equipment (PPE)

Applicators, mixers, loaders, and other pesticide handlers must wear: protective eyewear (goggles or face shield), long-sleeved shirt and long pants, chemical resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, and shoes plus socks.

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

User Safety Recommendations

Users should:

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

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

Remove PPE immediately after handling the product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

NON-TARGET ORGANISM ADVISORY STATEMENT: This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

Fish Advisory Statement: This product may be hazardous to aquatic organisms, particularly in clear, shallow water bodies that are adjacent to treated areas. Transport to water by runoff or spray drift of this product in areas where surface water is present, or intertidal areas below the mean high water mark, should be avoided. Do not contaminate water when disposing of equipment wash water or rinsate

Groundwater Advisory

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

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

Surface Water Advisory

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

Physical/Chemical Hazards

Combustible. Do not use or store near heat or open flame.

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls over long-sleeved shirt and long pants, chemical resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, and shoes plus socks.

WEED RESISTANCE MANAGEMENT

SPARTAN CHARGE CAL, which contains the active ingredients Carfentrazone-ethyl Sulfentrazone is a group 14 herbicide based on the mode of action classification system of the Weed Science Society of America.

Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is a best practice. A diversified weed management program may include the use of multiple herbicides with different sites of action and overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that using the labeled rate and directions for use is important to delay the selection for resistance.

The continued effectiveness of this product depends on the successful implementation of a weed resistance management program.

To aid in the prevention of developing weeds resistant to this product, users should:

- Scout fields before application for weeds for identification of species and sizes.
- Start with a clean field, using either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small (less than 4 inches).
- Apply full rates of SPARTAN CHARGE CAL for the most difficult to control weed in the field at the specified time (correct weed size) to minimize weed escapes.
- Scout fields after application to detect any poor performance or likely resistance in weeds.
- Control weed escapes before they reproduce by seed or proliferate vegetatively.
- Report any incidence of non-performance of this product against a particular weed to your local retailer or county extension agent.
- Contact your crop advisor or extension agent to find out if suspected resistant weeds to these MOAs have been found in your region. Do not assume that each listed weed is being controlled by multiple sites of action. Products with multiple active ingredients are intended to broaden the spectrum of weeds that are controlled. Some weeds may be controlled by only one of the active ingredient in this product.
- If resistance is suspected, treat weed escapes with an herbicide having a site of action other than Group 14 and/or use nonchemical methods to remove escapes, as practical, with the goal of preventing further seed production.
- Suspected herbicide-resistant weeds may be identified by these indicators:
 - Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
 - A spreading patch of non-controlled plants of a particular weed species; and
 - Surviving plants mixed with controlled individuals of the same species.

Additionally, users should follow as many of the following herbicide resistance management practices as is practical:

- Use a broad spectrum soil-applied herbicide with other sites of action as a foundation in a weed control program.
- Utilize sequential applications of herbicides with alternative sites of action.
- Rotate the use of this product with non-Group 14 herbicides.
- Avoid making more than two applications of SPARTAN CHARGE CAL and any other Group 14 herbicides within a single growing season unless mixed with an herbicide with a different site of action with an overlapping spectrum for the difficult-to-control weeds.
- Incorporate non-chemical weed control practices, such as mechanical cultivation, crop rotation, cover crops and weed-free crop seeds, as part of an integrated weed control program.
- Use good agronomic principles that enhance crop development and crop competitiveness.
- Thoroughly clean plant residues from equipment before leaving fields suspected to contain resistant weeds.
- Manage weeds in and around fields, during and after harvest to reduce weed seed production.

DIRECTIONS FOR USE

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

Read all Directions for Use carefully before applying. Only use for sites, pests, and application methods specified on this labeling.

For use only in the state of California.

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.

USE RESTRICTIONS

Do not apply more than the allowed amount of SPARTAN CHARGE CAL per acre per twelve-month period as stated in the Maximum Use Rate Table. The twelve-month period is considered to begin upon the initial SPARTAN CHARGE CAL application.

Endangered Species: It is a Federal offense to use any pesticide in a manner that results in the death of an endangered species. Use of this product may pose a hazard to endangered or threatened species. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county in which you are applying the product. To obtain Bulletins, no more than six months before using this product, consult <http://www.epa.gov/espp/> or call 1-800-447-3813. You must use the Bulletin valid for the month in which you will apply the product.

PRODUCT INFORMATION

SPARTAN CHARGE CAL is a selective herbicide that provides postemergent contact and soil residual weed control. SPARTAN CHARGE CAL may be applied as a burndown prior to planting, early preplant, or as a preemergent application before or after weed emergence for control of susceptible broadleaf weeds. SPARTAN CHARGE CAL is a 3.5 pound per gallon suspoemulsion containing the active ingredients carfentrazone-ethyl and sulfentrazone. Applications of SPARTAN CHARGE CAL must be made before crop seed germination to prevent injury to the emerging crop seedlings. When applications after planting are delayed, injury may occur if seeds are germinating or if they are located near the soil surface.

Observe all instructions, crop restrictions, mixing directions, application precautions, replanting directions, rotational crop guidelines and other label information of each product when tank mixing with SPARTAN CHARGE CAL. In addition to general application information, refer to the specific directions of use for a particular crop/use pattern as set forth below.

Proper Handling Instructions

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

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

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

Do not use flood irrigation to apply or incorporate this product.

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

PRODUCT APPLICATION INSTRUCTIONS

SPARTAN CHARGE CAL is to be mixed with water, liquid fertilizer, or mixtures of water and liquid fertilizer and applied in fallow systems or as a preplant burndown or preemergence herbicide to labeled crops. SPARTAN CHARGE CAL provides postemergent contact and soil residual control of susceptible weed species.

Emerged, susceptible broadleaf weeds are easiest to control when they are small (less than 3 inches tall) and actively growing. Thorough coverage is essential for control of small susceptible broadleaf weeds. If thorough coverage is not achieved postemergent weed control will be poor. Always use the higher application rate of this product, for the appropriate soil texture and organic matter, when weed growth is dense or heavy, or when weeds are growing in an undisturbed or non-cultivated area. Reduced weed control may occur if weeds are experiencing drought stress, disease or insect damage, or when weeds are thickly covered with dust. For control of weeds not listed on this label SPARTAN CHARGE CAL may be tank-mixed with other herbicides such as glyphosate. Read and follow all manufacturers' label directions for the companion herbicide(s) except for specific use directions on this label. The use of a quality spray adjuvant is required for optimum control of emerged weeds. Refer to the individual crop sections of this label for specific adjuvant type and use rates.

The residual activity of SPARTAN CHARGE CAL applications requires adequate moisture for herbicidal activation. The amount of residual activity is dependent on several factors. These factors include, but are not limited to, existing soil moisture at application, soil type, organic matter, and tillth. Where irrigation is not available and rainfall has not provided activation, particularly for surface applications of SPARTAN CHARGE CAL, a shallow incorporation (less than 2") is recommended for destruction of any existing weeds and to incorporate SPARTAN CHARGE CAL. Herbicide incorporation will initiate the process of activation with existing soil moisture. In circumstances where rainfall has not occurred and/or irrigation is not possible, alternative or additional weed management practices may be required.

Under normal growing conditions, SPARTAN CHARGE CAL exhibits excellent crop safety. Soil applications of SPARTAN CHARGE CAL must be made before crop seed germination to prevent injury to the emerging crop seedlings. SPARTAN CHARGE CAL applied after crop emergence will cause severe injury to the crop. Poor growing conditions, such as excessive moisture, cool temperatures, and soil compaction or the presence of various pathogens may impact seedling vigor. Under these conditions, the active ingredients in SPARTAN CHARGE CAL can contribute to crop response. Refer to the specific directions of use for a particular crop/use pattern as set forth below for additional information.

CALIFORNIA ONLY SPECIFIC RESTRICTIONS ON APPLICATIONS OF SPARTAN CHARGE CAL

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

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

Rights-of-Way. Do not use on engineered rights-of-way in areas established by the California Department of Pesticide Regulation as leaching or runoff ground water protection areas* unless either (a) any runoff from the treated right-of-way shall pass through a noncrop 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 six months following application with the exception of the addition of adequate moisture that is required for herbicidal activation following application as described under Product 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.

Runoff Ground Water Protection Areas. Do not use in areas identified by the California Department of Pesticide Regulation as a runoff ground water protection areas* unless one of the following management practices can be met:

(a) Soil disturbance. Within seven days before this product is applied, the soil to be treated shall be disturbed by using a disc, harrow, rotary tiller, or other mechanical method. 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 percent of the distance between crop rows or, in citrus, to the band from the tree row to the dripline; or

(b) Incorporation of the pesticide. Within 48 hours after the day this product is applied, the pesticide shall be incorporated on at least 90 percent of the area treated; using a disc, harrow, rotary tiller, or other mechanical method, or by sprinkler or low flow irrigation, including chemigation where allowed by the label, using a minimum of ¼ inch of irrigation water and a maximum of one inch as described under Product Application Instructions, at application rates that do not cause surface water runoff from the treated property or to wells on the treated property; or

(c) Band treatment. This product is applied as a band treatment immediately adjacent to the crop row so that not more than 33 percent 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

(d) Timing of application. This product is applied between April 1 and July 31; or

(e) Retention of runoff on field. For six months following the application, the field shall be designed, by berms, levees, or nondraining circulation systems, to retain all irrigation runoff and all precipitation on, and drainage through, the field. The retention area on the field shall not have a percolation rate of more than 0.2 inches per hour (5 inches per 24 hours); or

(f) Retention of runoff in a holding area off the field. For six months following the application, all runoff shall be channeled to a holding area off the application site, under the control of the property operator, that is designed to retain all irrigation runoff and all precipitation on, and drainage through, the treated field and all other areas draining into that holding area. The holding area shall not have a percolation rate of more than 0.2 inches per hour (5 inches per 24 hours); or

(g) Runoff onto a fallow field. For six months following application, runoff shall be managed so that it runs off onto an adjacent unenclosed fallow field at least 300 feet long that is not irrigated for six months after application with the exception of the addition of adequate moisture that is required for herbicidal activation following application as described under Product Application Instructions, with full consideration of any plant back restrictions.

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

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

ENVIRONMENTAL AND SOIL FACTORS INFLUENCING SPARTAN CHARGE CAL APPLICATIONS

Do not apply to soils classified as sand with less than 1% organic matter.

The user is required to read and follow the specific SPARTAN CHARGE CAL use directions and restrictions for each crop as defined in subsequent sections of this label. The user is cautioned that some crops and weeds respond differently to SPARTAN CHARGE CAL. This response is governed by the SPARTAN CHARGE CAL application rate, various soil factors and inherent crop sensitivity. See individual crop use sections for specific directions on the use of SPARTAN CHARGE CAL for optimum weed control and crop safety results in each crop.

INFLUENCE OF CLAY, SOIL TYPE, AND PH ON SPARTAN CHARGE CAL USE RATES AND CROP RESPONSE

Following an application of SPARTAN CHARGE CAL to soil, germinating seeds and seedlings take up SPARTAN CHARGE CAL from the soil solution. The amount of SPARTAN CHARGE CAL in the soil solution, and available for weed uptake, is determined primarily by soil type, organic matter, and soil pH. SPARTAN CHARGE CAL adsorbs to the clay and organic matter fractions of soils; effectively limiting the amount of active ingredient immediately available to control weeds. Soils typically increase in clay content through the series from coarse to fine as noted in the following Soil Classification Chart.

SOIL CLASSIFICATION CHART

COARSE	MEDIUM	FINE
Sand	Sandy clay loam	Silty clay loam
Loamy sand	Sandy clay	Silty clay
Sandy loam	Loam	Clay loam
	Silt loam	Clay
	Silt	

Soil organic matter content can vary widely and independently of soil type and requires an accurate analysis of representative soil samples to determine its content.

Soil pH also exerts a dramatic affect on SPARTAN CHARGE CAL availability in the soil solution. As soil pH increases, SPARTAN CHARGE CAL availability increases. Accurate soil pH information will require an accurate analysis of representative soil samples.

The total amount of SPARTAN CHARGE CAL available, in any given soil, is determined by the interaction of soil type (clay content), % organic matter, and pH. The application timing (relative to the emergence of the crop and weeds) and amount of rainfall and/or irrigation received will ultimately determine, in conjunction with the soil parameters and pH, the amount of SPARTAN CHARGE CAL in soil solution.

Irrigation with highly alkaline water (high pH) following a SPARTAN CHARGE CAL soil application can also significantly increase the amount of SPARTAN CHARGE CAL available in the soil solution. Irrigation with water having a pH greater than 7.5 could result in adverse crop response. This response will ultimately depend on initial SPARTAN CHARGE CAL application rate, timing, amount and pH of irrigation water and sensitivity of the crop and its growth stage when irrigated. The risk of adverse crop response will lessen with the advance in growth stage among most crops.

The following Crop Specific Use Directions have been designed with specific SPARTAN CHARGE CAL recommendations for each crop based on the soil type, soil organic matter, and soil pH interactions described above. The user is cautioned that crop tolerance and weed control performance are based on strict adherence to these recommendations.

MIXING AND LOADING INSTRUCTIONS

Water or liquid fertilizer solutions may be used as the carrier for SPARTAN CHARGE CAL when applied alone or in tank mixtures with other registered herbicides. A jar test is recommended to determine the compatibility of SPARTAN CHARGE CAL and the fertilizer solution. When mixing with fertilizer solutions it is important to premix SPARTAN CHARGE CAL in clear water. See directions for applying SPARTAN CHARGE CAL alone with liquid fertilizer in Application Information.

A crop oil concentrate, methylated seed oil, nonionic surfactant (NIS) wetting agent labeled, or other equivalent adjuvant labeled for use with herbicides is required for optimum control of emerged weeds. Read and follow all applicable use directions, precautions and restrictions on the surfactant label.

SPARTAN CHARGE CAL Applied Alone

Select the proper SPARTAN CHARGE CAL application rate from the following tables in the crop section of this label. Fill the spray tank with approximately one-half of the volume of water needed for the acreage being treated. With agitator operating, add the required amount of SPARTAN CHARGE CAL for acreage being treated by opening the bottle(s) and measuring directly into the spray tank. Allow the product to fully disperse. Complete the addition of spray water. Maintain agitation during filling, mixing and application. Apply the SPARTAN CHARGE CAL spray mixture immediately after mixing.

Do not store spray mixture.

Do not prepare spray mixtures in nurse tanks.

SPARTAN CHARGE CAL Applied in Tank Mix Combination

Select the proper SPARTAN CHARGE CAL application rate from TIMING AND METHOD OF APPLICATION section of label. Read and follow all applicable use directions, precautions and restrictions on the respective tank mix product labels. To ensure product compatibility, a jar test should be conducted before large volume mixing (see MIXTURE COMPATIBILITY TESTING chart below). Provided the jar test indicates the mixture is compatible, prepare the tank mixture as follows.

Fill the spray tank with approximately one-half of the volume of water needed for the acreage being treated. With agitator operating, add the required amount of SPARTAN CHARGE CAL for the acreage being treated by opening the bottle(s) and measuring directly into the spray tank. Allow the product to fully disperse. If more than one product is to be used, add each separately using the following sequence: dry formulations (e.g., wettable powders, dry flowables) first, SPARTAN CHARGE CAL and other liquid suspensions (e.g., flowables) next and finally liquids (e.g., EC's). Allow time for complete mixing and dispersion after each addition, adding water as necessary. Complete the addition of spray water. Maintain agitation during filling, mixing and application. Use SPARTAN CHARGE CAL tank mixtures immediately after mixing.

Do not store tank mixtures.

Do not prepare spray mixtures in nurse tanks.

SPARTAN CHARGE CAL Applied Alone with Liquid Fertilizer

When adding SPARTAN CHARGE CAL to a liquid fertilizer carrier, SPARTAN CHARGE CAL should be premixed in clear water before adding to fertilizer solution. Adding SPARTAN CHARGE CAL to fertilizer mixtures without first mixing with water can result in incompatibility.

Fill the spray tank one-half full with fertilizer solution. With agitator operating, add the SPARTAN CHARGE CAL slurry to the spray tank. Use a minimum of one gallon of water for each container of SPARTAN CHARGE CAL. Then add slurry to the spray tank through a 20-35 mesh screen. Rinse container used for pre-mixing and add rinsate to the spray tank. Complete filling the sprayer tank with fertilizer. Maintain agitation during filling, mixing and application. Use SPARTAN CHARGE CAL spray mixture immediately after mixing.

Do not store mixture.

Do not prepare spray mixtures in nurse tanks.

Jar Testing Fertilizer Spray Mixtures

Applications of SPARTAN CHARGE CAL alone, or with recommended tank mixtures, in conjunction with clear liquid fertilizer solutions (28-32% nitrogen only) may be used unless use directions specifically state otherwise. Small quantities should be tested for compatibility by the following procedure before mixing in full spray tank quantities.

1) Add 1 pint of fertilizer solution in a quart jar.

2) Add the appropriate amount of herbicide based on the MIXTURE COMPATIBILITY table below. If more than one product is to be used, add each separately using the following sequence: dry formulations (e.g., wettable powders, dry flowables) first, liquid suspensions (e.g., flowables) next and finally liquids (e.g., EC's).

3) Close jar and shake well.

4) Watch mixture for several seconds, again after 5 minutes and again after 30 minutes. If herbicide/fertilizer combination remains mixed or can be remixed readily (i.e., does not permanently separate, foam, gel or become lumpy), the mixture is compatible and can be mixed in full volumes and sprayed. If the mixture is compatible, prepare spray by adding fertilizer solution to the tank first, and then follow directions noted below.

MIXTURE COMPATIBILITY TESTING

Herbicide Type	Herbicide Field Use Rate	Amount Herbicide Added Per Pint
Wettable Powder or Dry Flowable	0.5 pound	0.75 teaspoon
	1.0 pound	1.50 teaspoons
	2.0 pounds	3.00 teaspoons
	3.0 pounds	4.50 teaspoons
Emulsified Concentrates Liquid Flowables	1.0 pint	0.5 teaspoon
	1.0 quart	1.0 teaspoon
	2.0 quarts	2.0 teaspoons
	3.0 quarts	3.0 teaspoons

*Based on a spray volume of 25 gallons per acre. For lower or higher spray volumes, adjust fluid fertilizer quantity accordingly.

Adjuvant Requirements

The use of methylated seed oil (MSO) or a crop oil concentrate (COC) adjuvant, labeled for use with herbicides, is required for optimum control of emerged weeds. A nonionic surfactant adjuvant and water conditioning agent is recommended when SPARTAN CHARGE CAL is tank-mixed with glyphosate. Read and follow all applicable use directions, precautions and restrictions on the surfactant label.

APPLICATION INFORMATION

Ground Application

Use a boom and nozzle sprayer equipped with the appropriate nozzles and screens and adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures. Use nozzles that produce minimal amounts of fine spray droplets. Do not exceed 30 psi spray pressure unless otherwise required by the manufacturer of drift reducing nozzles. Apply a minimum of 10 gallons of finished spray per acre. When tank mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre. Use higher spray volumes when there is a dense weed population. Thorough coverage is essential for control of susceptible broadleaf weeds. Be aware that overlaps and slower ground speeds while starting, stopping, or turning while spraying may result in excessive application and subsequent crop response.

Continuous agitation is required until all spray mixture has been applied. Avoid swath overlaps. Shut off spray booms while turning, slowing or stopping, as over application may result. Do not allow SPARTAN CHARGE CAL spray mixtures to sit overnight as settling of product and difficulty of re-suspending may occur.

To avoid injury to sensitive crops, spray equipment used for SPARTAN CHARGE CAL applications must be drained and thoroughly cleaned with water CHARGE ammonia before being used to apply other products. See Spray Clean-out section.

Avoid all direct, and/or indirect spray contact with non-target plants. Do not apply near desirable vegetation. Allow adequate distance between target area and desirable plants to minimize exposure.

Do not apply when wind speed favors drift beyond the area of treatment.

Runoff and Wind Erosion Precautions

Do not apply under conditions which favor runoff or wind erosion of soil containing SPARTAN CHARGE CAL to non-target areas. To prevent off-site movement due to runoff or wind erosion:

- Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, allow the soil surface to be settled by rainfall or irrigation.
- Do not apply to impervious substrates such as paved or highly compacted surfaces or frozen or snow covered ground.
- Do not apply to soils when saturated with water.
- Do not use tail water from the first flood or furrow irrigation of treated fields to treat non target crops unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.

SPRAY DRIFT

Aerial Applications:

Aerial application is allowed only when environmental conditions prohibit ground application. Apply sufficient spray volume to achieve adequate coverage. When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre

- For Aerial applications, the distance of the outer most nozzles on the boom must not exceed 75% of the length of the wingspan or 90% of rotor diameter. To further reduce drift, use on half of the length of the wingspan or rotor diameter at the edge of the filed.
- Applicators must only spray when wind speed is 10 miles per hour or less.
- Applicators must not spray during temperature inversions.
- For aerial applications, the release height must be no higher than 10 feet from the top of the crop canopy, unless a greater application height is required for pilot safety.
- For aerial applications, select nozzle and pressure that produce medium to coarse spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with ASABE Standard 572.1.

Ground Boom Applications:

- For ground boom applications, apply with the nozzle height no more than 4 feet above the ground or crop canopy. For all other ground applications, the nozzle must be no more than 4 feet from the target vegetation.
- For ground applications, select nozzle and pressure that produce medium to coarse spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with ASABE Standard 572.1.

SPRAY DRIFT MANAGEMENT

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

Carfentrazone-ethyl is a contact herbicide. Avoid any drift conditions that would allow the product to contact desirable vegetation. Carfentrazone-ethyl is not volatile; however, mist from spray drift may cause injury to sensitive plants.

The interaction of equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target movement from applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses, or to applications of dry materials. Where states have more stringent regulations, they must be observed.

Information on droplet size

The most effective way to reduce drift potential is to apply large droplets. The optimum drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift when applications are made improperly, or under unfavorable environmental conditions (See Wind, Temperature and Humidity, and Temperature Inversions).

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

For all non-aerial applications, wind speed must be measured adjacent to the application site, on the upwind side, immediately prior to application.

Controlling Spray Droplet Size

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

Pressure - Do not use pressures greater than that specified by the nozzle manufacturer. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

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

Nozzle Orientation – For aerial application, orient nozzles so that the spray is released parallel to the airstream. A parallel orientation results in larger droplets than other orientations and reduces air turbulence and the production of small droplets. Significant 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 aerial applications, solid stream nozzles oriented straight back produce the largest droplets and potentially the least drift.

Boom Length - For some aerial use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height – Making applications at the lowest height that is safe reduces exposure of spray droplets to evaporation and wind movement. Aerial applications should not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. drops, etc.).

Swath Adjustment: Swath adjustment distance must increase, with increasing drift potential (higher winds, smaller drops, etc.)

Wind - Drift potential is lowest between winds speeds of 3 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Applications shall be avoided below 3 mph due to variable wind direction and high inversion potential. Do not apply Carfentrazone-ethyl when wind speed exceeds 10 mph. NOTE: Local terrain can influence wind patterns. Every applicator shall 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 larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions – Do not apply carfentrazone-ethyl during a temperature inversion because the drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the following 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.

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

Sensitive Areas – Carfentrazone-ethyl shall only be applied when the wind is blowing away from adjacent sensitive areas (e.g. residential areas, bodies of water, known habitats for threatened or endangered species and non-target crops).

Off-Target Movement of SPARTAN CHARGE CAL – Drift of dilute spray mixtures containing SPARTAN CHARGE CAL 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. SPARTAN CHARGE CAL can cause significant symptomology by drift on to sensitive crops and other plants. This symptomology may manifest initially as discreet, localized spots where contact by SPARTAN CHARGE CAL drift mixtures. Depending on concentration of the spray solution and droplet size (effectively determining the concentration of SPARTAN CHARGE CAL) and also depending on the inherent sensitivity of the plants involved, these spots or lesions may not coalesce. These effects will usually not have lasting effects on plant growth, but will likely reduce the value of affected fruit of 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 SPARTAN CHARGE CAL on to unintended crops or plants, irrespective of severity, constitutes misapplication of this product. FMC accepts no responsibility or liability for potential crop effects that may result from such misapplication of SPARTAN CHARGE CAL.

SPRAY EQUIPMENT CLEAN-OUT

After spraying SPARTAN CHARGE CAL and before using sprayer equipment for any other applications, the sprayer must be thoroughly cleaned using the following procedure.

1. Drain sprayer tank, hoses, and spray boom and thoroughly rinse the inside of the sprayer tank with clean water to remove sediment and residues. Thoroughly flush sprayer hoses, boom and nozzles with clean water.
2. Fill the tank 1/2 full with clean water, and add appropriate detergent or ammonia (follow manufacturer's directions for use). Fill the tank to capacity and operate the sprayer for 15 minutes to flush hoses, boom, and nozzles.
3. Convenient and thorough cleaning of the sprayer can be achieved if the cleaning solution is left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage.

4. Before using the sprayer, drain the spray system. Rinse the tank with clean water and flush through the hoses, boom, and nozzles. Remove and clean spray tips and screens separately with the detergent or ammonia solution.

5. Properly dispose of all cleaning solution and rinsate in accordance with Federal, State and local regulations and guidelines.

Do not drain or flush equipment on or near desirable trees or plants.

Do not contaminate any body of water including irrigation water that may be used on other crops.

Should small quantities of SPARTAN CHARGE CAL remain in inadequately cleaned mixing, loading and/or spray equipment, they may be released during subsequent applications potentially causing effects to certain crops and other vegetation. FMC accepts no liability for any effects due to inadequately cleaned equipment.

MAXIMUM ALLOWABLE SPARTAN CHARGE CAL USE PER ACRE PER 12 MONTH PERIOD*

Refer to the crop section of this label for specific product use directions.

Crop	fl oz/A SPARTAN CHARGE CAL	lb ai/A SPARTAN CHARGE CAL **
Berries (Crop Group 13-07)	15.2	0.41
Citrus (Crop Group 10)	15.2	0.41
Corn	10.2	0.28
Dry peas & beans***	10.2	0.28
Fallow	10.2	0.28
Flax	10.2	0.28
Grapes	15.2	0.41
Soybeans	8.5	0.23
Sunflowers	10.2	0.28
Peanut	12.2	0.33
Potato	10.2	0.28
Sugarcane	15.2	0.41
Tobacco	15.2	0.41
Tree Nuts (Crop Group 14)	15.2	0.41
Cabbage	15.2	0.41
Horseradish	10.2	0.28
Sod production	15.2	0.41

*The total allowed usage per twelve-month period includes all applications made to the field per twelve-month interval. This includes fallow treatments, burndown treatments, planting time and all in-season treatments. The twelve-month period is considered to begin upon the initial SPARTAN CHARGE CAL application.

** Based on total active carfentrazone-ethyl and sulfentrazone

*** The maximum seasonal rate for "legume vegetables (crop group 6) except soybean" is 0.096 lb ai/acre

RATE CONVERSION CHART

SPARTAN CHARGE CAL		CARFENTRAZONE-ETHYL		SULFENTRAZONE	
Product fl oz/A	lb ai*	Product fl oz/A	lb ai	Product fl oz/A	lb ai
3.75	0.10	0.65	0.01	2.9	0.09
5.75	0.15	1.0	0.015	4.5	0.14
8.50	0.23	1.5	0.02	6.7	0.21
10.20	0.28	1.8	0.03	8.0	0.25
15.25	0.41	2.7	0.04	12.0	0.37

* Total pounds active of sulfentrazone + carfentrazone-ethyl

CROP ROTATIONAL INTERVALS

Shown below are the minimum intervals in months from the time of SPARTAN CHARGE CAL application until SPARTAN CHARGE CAL treated soil may be replanted with the crops listed. When SPARTAN CHARGE CAL is tank mixed with other herbicide(s), refer to all those labels for re-cropping instructions, following the intervals that are the most restrictive. For crops not listed, the interval is 12 months in addition to a successful field bioassay.

The field bioassay is a test strip of the intended crop planted across the previously treated field and grown to maturity. The test strip should include low spots, knolls, and variable pH and soil types. If crop responses are not observed, the crop may be planted the following year.

CROP ROTATION INTERVALS*

CROP	INTERVAL (Months)
Alfalfa	12
Barley	4
Berries (Crop subgroup 13-07)	Anytime
Cabbage (transplant only)	Anytime
Canola, Crambe	24
Citrus (Crop Group 10)	Anytime
Corn, field	Anytime
Corn, pop	Anytime
Corn, seed	Anytime
Corn, sweet	4
Cotton****	18 or 12***
Dry Shell Peas & Beans	Anytime
Flax	Anytime
Grapes	Anytime
Horseradish	Anytime
Mint	Anytime
Peanuts	Anytime
Potatoes	Anytime
Rice	10
Rye	4
Sorghum	10**
Soybeans	Anytime
Sugar Beets	36
Sugarcane	Anytime
Sunflowers	Anytime
Sweet Potatoes	12
Tobacco	Anytime
Tree Nuts (Crop group 14)	Anytime
Triticale	4
Turf	Anytime
Wheat	4

* For all other crops not listed, the rotation interval is a minimum of 12 months.

** 18 month rotation for rates above 10.2 fl oz/A. Crops that have rotational intervals greater than 12 months after a SPARTAN CHARGE CAL application are the result of crop injury concerns. The crops should only be planted after a successful bioassay.

*** Cotton may be planted after 12 months where SPARTAN CHARGE CAL was applied at rates 8 oz/acre or less and meets the following conditions:

- Medium and fine soils
- pH <7.2
- Rainfall or irrigation must exceed 15" after application of SPARTAN CHARGE CAL to rotate to cotton

**** for up to 12 months following application to cotton, and potato, the subsequent planted crop may only be a registered crop

Hybrid Corn Seed Production

Corn inbred lines grown for hybrid seed production may be injured in the growing season following an application of SPARTAN CHARGE CAL. Inbred lines should be thoroughly tested for crop tolerance before rotating to production scale acreages. FMC will not accept responsibility for any crop injury on field corn grown for seed following an application of SPARTAN CHARGE CAL.

REPLANTING INSTRUCTIONS

If the initial planting of labeled crops fails to produce a uniform stand, only labeled crops for SPARTAN CHARGE CAL or the tank mix partner; whichever is most restrictive, may be replanted. Do not retreat fields with a second application of SPARTAN CHARGE CAL or other herbicide containing sulfentrazone. When tank mixing with a labeled product, refer to the replant instructions for that product. Do not replant treated fields with any crop at intervals that are inconsistent with the CROP ROTATION INTERVALS on this label. When replanting use minimum soil tillage to preserve the herbicide barrier and achieve maximum weed control.

POSTEMERGENT WEEDS CONTROLLED

Pre-Plant Burndown (Refer to individual crop sections for preemergent weeds controlled).

Use Restrictions

This product, SPARTAN CHARGE CAL, may only be used in accordance with the Product Application information and the specific crop use directions. When used as directed, SPARTAN CHARGE CAL will provide postemergent control of the following weeds (less than 3 inches tall) as specified:

Weeds Controlled	SPARTAN CHARGE CAL use rate fl oz/A (lb ai/A)
Lambsquarters (up to 3 inches tall)	3.75 (0.10)
Morningglory, Ivyleaf (up to 3 leaves)	
Morningglory, pitted (up to 3 leaves)	
Nightshade, Eastern black	
Pigweed, redroot	
Velvetleaf	
Waterhemp (up to 2 inches tall)	
Weeds Controlled	SPARTAN CHARGE CAL use rate fl oz/A (lb ai/A)
All the weeds controlled at 3.75 fl oz/A (0.10 lb ai/A plus the weeds listed below:	4.75 (0.13)
Cheeseweed	
Filaree, redstem	
Flixweed	
Lambsquarters, common	
Mallow, common	
Morningglory, entireleaf	
Morningglory, Ivyleaf	
Morningglory, pitted	
Morningglory, scarlet	
Nightshade, hairy	
Pennycress, field	
Pigweed, smooth	
Sesbania, hemp	
Smartweed (PA), seedling	
Tansymustard	
Waterhemp	
Weeds Controlled	SPARTAN CHARGE CAL use rate fl oz/A (lb ai/A)
All the weeds controlled at 4.75 fl oz/A (0.13 lb ai/A) plus the weeds listed below:	6.0 (0.16)
Amaranth, spiny	
Anoda, spurred	
Bedstraw, catchweed	
Buffalobur	
Carpetweed	
Cocklebur	
Copperleaf, hophornbeam	
Cotton, GMO varieties	
Cotton, volunteer	
Dayflower	
Eclipta	
Fiddleneck, coast	
Groundcherry, smooth (seedling)	
Groundcherry, Wright's	
Jimsonweed	
Kochia	
Rocket, London	
Morningglory, Ivyleaf	
Morningglory, tall	
Nightshade, American black	
Nightshade, black	

Sheperdspurse	8.5 (0.23) – 15.2 (0.41)	
Spiderwort, tropical		
Thistle, Russian		
Wallflower, bushy		
Weeds Controlled		SPARTAN CHARGE CAL use rate fl oz/A (lb ai/A)
All the weeds controlled at 6.0 fl oz/A (0.16 lb ai/A plus the weeds listed below:		
Amaranth, Palmer		
Ammania, purple		
Buckwheat, wild		
Burclover		
Filaree, broadleaf		
Filaree, white		
Lettuce, prickly		
Mallow, Venice (up to 2 inches tall)		
Meadowfoam		
Mustard spp.		
Redmaids		
Spurry, corn		
Spurry, clover		

FALLOW SYSTEMS

SPARTAN CHARGE CAL may be used in fallow cropping systems only where crops are seeded and harvested on alternate years for soil moisture conservation using rates in Table below. Follow crop rotational restrictions when replanting following SPARTAN CHARGE CAL applications.

SPARTAN CHARGE CAL Use Rate Table			
Fallow Applications			
Broadcast Rate	fl oz/A (lb ai/A) SPARTAN CHARGE CAL		
Soil Texture			
% Organic Matter	Coarse	Medium	Fine
<1.5	3.75(0.10)-5.0(0.14)	3.75(0.10)-5.75(0.16)	5.0(0.14)-6.5(0.18)
1.5-3.0	3.75(0.10)-5.75(0.16)	5.0(0.14)-7.75(0.21)	5.75(0.16)-8.5(0.23)
>3	5.0(0.14)-7.75(0.21)	5.75(0.16)-8.5(0.23)	6.5(0.18)-10.2(0.28)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories Use higher rates for soils of pH less than 7.0 and lowest rate for pH greater than 7.0 within the rate range.			

Adjuvant Requirements

For optimum control of emerged weeds a nonionic surfactant, crop oil concentrate, methylated seed oil, or equivalent adjuvant is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints/100 gallons of spray solution) having at least 80% active ingredient or a petroleum or oil seed based crop oil concentrate (COC) at 1.5 to 2.0% v/v (1.5 to 2.0 gallons per 100 gallons of spray solution) or a methylated seed oil (MSO). A high quality sprayable liquid nitrogen fertilizer at 2.0 to 4.0% v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre may be used in addition to the selected NIS, COC, or MSO. When an adjuvant is to be used with this product, FMC recommends use of a Chemical Producers and Distributors Association certified adjuvant.

Optimum broad-spectrum control of annual and perennial weeds requires a tank mix with a broad-spectrum burndown herbicide such as glyphosate, glufosinate, or paraquat. When tank mixing SPARTAN CHARGE CAL with other products be sure the SPARTAN CHARGE CAL is added to the spray tank water first. For specific mixing instructions refer to the Mixing and Loading instructions section of this label.

For all products used in tank mixes refer to the specific product labels for all restrictions on tank mixing and observe all label precautions, instructions, and rotational cropping restrictions.

Precautions

These Crop Specific Use directions are based upon the interactive effects of SPARTAN CHARGE CAL and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under General Application Instructions, General SPARTAN CHARGE CAL Product

Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with SPARTAN CHARGE CAL. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on SPARTAN CHARGE CAL under specific local conditions. **Thorough coverage is essential for control of small susceptible broadleaf weeds.** If thorough coverage is not achieved, postemergent weed control will be poor. If adequate moisture (1/2" to 1" of rainfall or irrigation) is not received within 7 to 10 days and also if dry conditions persist throughout the growing season, erratic preemergent weed control may result. Additional moisture is needed throughout the growing season to maintain herbicide activity and prevent weed escapes.

When used as directed, SPARTAN CHARGE CAL will provide preemergent control of the following weeds (refer to POSTEMERGENT WEEDS CONTROLLED section for postemergent weeds controlled):

Kochia (ALS and Triazine Resistant)	Pigweed, redroot
Lambsquarters, common	Pigweed, smooth
Morningglory, ivyleaf	Thistle, Russian
Morningglory, tall	Waterhemp, common
Nightshade, Eastern Black	Waterhemp, tall

Restrictions

Do not apply more than 10.2 fl oz/A (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone per twelve-month period.
 Do not apply more than 10.2 fl oz/A (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) in a single application.
 Do not apply more than 2 applications per year when using reduced application rates equal or less than 5.1 fl oz/A of this product. The twelve-month period is considered to begin upon the initial SPARTAN CHARGE CAL application.

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

Do not apply to frozen soils or existing snow cover to prevent SPARTAN CHARGE CAL runoff from rain or snowmelt that may occur following application.

Only use for sites, pests, and application methods specified on this labeling.

CORN (Field Corn, Seed Corn, Popcorn)

Preplant Burndown, Early Preplant, and Preemergence Applications

Apply SPARTAN CHARGE CAL alone or with other herbicides or liquid fertilizers as a burndown or preemergence treatment prior to emergence of corn to control or suppress weeds using rates in table below. Properly closed seed furrows are required when applying at planting time or before seed germination. When planting into soil treated preplant with SPARTAN CHARGE CAL, minimize soil disturbance to maintain the herbicide barrier on the soil surface to achieve maximum weed control. Apply SPARTAN CHARGE CAL using the rates in Table below.

For applications 14-21 or more days prior to planting, use the mid to high rate in the appropriate rate range for the soil and organic matter type listed in Table below. Optimum broad-spectrum control of annual and perennial weeds requires a tank mix with a broad-spectrum burndown herbicide such as glyphosate, glufosinate, or paraquat. When tank mixing SPARTAN CHARGE CAL with other products be sure the SPARTAN CHARGE CAL is added to the spray tank water first. For specific mixing instructions refer to the Mixing and Loading instructions section of this label.

SPARTAN CHARGE CAL Use Rate Table (Corn)			
Preplant Burndown, Early Preplant, and Preemergence			
Broadcast Rate	fl oz/A (lb ai/A) SPARTAN CHARGE CAL		
	Soil Texture		
% Organic Matter	Coarse	Medium	Fine
<1.5	3.75(0.10)-5.75(0.16)	3.75(0.10)-5.75(0.16)	5.0(0.14)-6.7(0.18)
1.5 – 3.0	3.75(0.10)-5.75(0.16)	5.0(0.14)-7.6(0.21)	5.75(0.16)-8.6(0.23)
>3.0	5.0(0.14)-7.6(0.21)	5.75(0.16)-8.6(0.24)	7.6(0.21)-10.2(0.28)

*Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories
 Use higher rates for soils of pH less than 7.0 and lowest rate for pH greater than 7.0 within the rate range.

Adjuvant Requirements

For optimum control of emerged weeds a nonionic surfactant, crop oil concentrate, methylated seed oil, or equivalent adjuvant is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints/100 gallons of spray solution) having at least 80% active ingredient or a petroleum or oil seed based crop oil concentrate (COC) at 1.5 to 2.0% v/v (1.5 to 2.0 gallons per 100 gallons of spray solution) or a methylated seed oil (MSO). A high quality sprayable liquid nitrogen fertilizer at 2.0 to 4.0% v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre may be used in addition to the selected NIS, COC, or MSO.

For all products used in tank mixes refer to the specific product labels for all restrictions on tank mixing and observe all label precautions, instructions, and rotational cropping restrictions.

Precautions

These Crop Specific Use directions are based upon the interactive effects of SPARTAN CHARGE CAL and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under General Application Instructions, General SPARTAN CHARGE CAL Product Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with SPARTAN CHARGE CAL. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on SPARTAN CHARGE CAL under specific local conditions. Thorough coverage is essential for control of small susceptible broadleaf weeds. If thorough coverage is not achieved, postemergent weed control will be poor.

When used as directed, SPARTAN CHARGE CAL will provide preemergent control of the following weeds (refer to POSTEMERGENT WEEDS CONTROLLED section for postemergent weeds controlled):

BROADLEAVES	
Amaranth, Palmer	<i>Amaranthus palmeri</i>
Amaranth, spiny	<i>Amaranthus, spinosus</i>
Amaranth, spleen	<i>Amaranthus dubius</i>
Jimsonweed	<i>Datura stramonium</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, common	<i>Chenopodium album</i>
Morningglory, Entireleaf	<i>Ipomea hederacea integrisc</i>
Morningglory, Ivyleaf	<i>Ipomea hederacea hederacea</i>
Morningglory, Palmleaf	<i>Ipomea Wrightii</i>
Morningglory, purple	<i>Ipomea turbinata</i>
Morningglory, red	<i>Ipomea coccinea</i>
Morningglory, scarlet	<i>Ipomea hederifolia</i>
Morningglory, Smallflower	<i>Jacquemontia tamnifolia</i>
Morningglory, tall	<i>Ipomea, purpurea</i>
Nightshade, black	<i>Solanum nigrum</i>
Nightshade, Eastern black	<i>Solanum americanum</i>
Pigweed, redroot	<i>Amaranthus retroflexus</i>
Pigweed, smooth	<i>Amaranthus hybridus</i>
Thistle, Russian	<i>Lactuca serriola</i>
Waterhemp, common	<i>Amaranthus rudis</i>
Waterhemp, tall	<i>Amaranthus tuberculatos</i>
SEDGES	
Nutsedge, purple	<i>Cyperus rotundus</i>
Nutsedge, yellow	<i>Cyperus esculentus</i>
Sedge, annual	<i>Cares spp.</i>

Restrictions

Do not apply SPARTAN CHARGE CAL Herbicide after crop emergence, or if the seedling is close to the soil surface, as undesirable crop response may occur.

Do not apply more than 10.2 fl oz/A (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) per twelve-month period.

Do not apply more than 10.2 fl oz/A (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) in a single application.

Do not apply more than 2 applications per year when using reduced application rate equal or less than 5.1 fl oz/A of this product.

The twelve-month period is considered to begin upon the initial SPARTAN CHARGE CAL application.

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

Do not apply to frozen soils or existing snow cover to prevent SPARTAN CHARGE CAL runoff from rain or snowmelt that may occur following application.

Only use for sites, pests, and application methods specified on this labeling.

POTATOES

SPARTAN CHARGE CAL Use Rate Table (Potatoes)			
Preemergence Application			
Broadcast Rate	fl oz/A (lb ai/A) SPARTAN CHARGE CAL		
	Soil Texture		
% Organic Matter	Coarse	Medium	Fine
<1.5	3.8(0.1)-5.7(0.16)	3.8(0.10)-5.7(0.16)	4.8(0.13)-6.7(0.18)
1.5-3.0	3.8(0.10)-5.7(0.16)	4.8(0.13)-7.6(0.21)	5.7(0.16)-7.6(0.21)
>3	5.7(0.16)-7.6(0.21)	6.7(0.18)-8.6(0.24)	7.6(0.21)-10.2(0.28)
*Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories Use higher rates for soils of pH less than 7.0 and lower rates for pH greater than 7.0 within the rate range.			

Ground and Aerial Applications

Apply SPARTAN CHARGE CAL by aerial application as a preemergence treatment following planting and after dragoff, but prior to potato emergence. Optimum performance can be achieved if SPARTAN CHARGE CAL is applied to the soil surface and either rainfall or overhead irrigation is used to activate the product. If no moisture is received within 7 days following application in areas without irrigation, a shallow incorporation (less than 2 inches) may be needed prior to weed and potato emergence to activate the product. Select the appropriate use rate based on soil texture and organic matter as shown in Table above. For control of emerged weeds at the time of the Spartan application, an appropriate burndown herbicide and adjuvants labeled for potatoes may be tankmixed with Spartan to control these weeds. Do not apply SPARTAN CHARGE CAL if the potatoes have emerged from the soil as undesirable crop response may occur. SPARTAN CHARGE CAL may be tankmixed with other soil-applied herbicides labeled for use in potatoes to improve weed management and increase weed control spectrum.

Apply SPARTAN CHARGE CAL in a minimum of 10 gallons of spray by ground application and 5 gallons of spray by air.

Chemigation Applications

SPARTAN CHARGE CAL may be applied to potatoes through sprinkler irrigation systems including center pivot, lateral move, end tow, solid set or hand move irrigation systems. Apply SPARTAN CHARGE CAL prior to potato emergence using sufficient water (0.25 to 0.5 inch per acre) to provide thorough soil surface coverage, but to avoid runoff of irrigation water. SPARTAN CHARGE CAL may be applied with other products labeled for chemigation use in potatoes.

It is important to note that irrigation with highly alkaline water (high pH) following a SPARTAN CHARGE CAL soil application may significantly increase the amount of sulfentrazone available in soil solution. Irrigation with water having a pH greater than 7.5 could result in adverse crop response. This response will ultimately depend on initial SPARTAN CHARGE CAL application rate, application timing, amount and pH of irrigation water; the sensitivity of the crop and the crop growth stage when irrigated. The risk of adverse crop response will lessen with advances in the crop growth stage.

Weeds Controlled

When applied according to directions, SPARTAN CHARGE CAL will provide control of:

Amaranth, Palmer	Nightshade, Eastern black
Filaree, redstem	Pigweed, redroot
Kochia (ALS and Triazine Resistant)	Pigweed, smooth
Lambsquarters, common	Thistle, Russian
Morningglory, ivyleaf	Waterhemp, common
Morningglory, tall	Waterhemp, tall

Also control all those weeds which are susceptible to carfentrazone application.

For information on other weeds not listed above, refer to Weed Controlled section in this label.

Precautions

Potato varieties may vary in their response to herbicide applications. When using SPARTAN CHARGE CAL on an untested variety, always determine the crop tolerance before planting. Some potato varieties, including Sangre, Shepody and Snowden, have shown sensitivity to SPARTAN CHARGE CAL. Caution should be used when planting these varieties on marginal coarse soils.

These Crop Specific Use directions are based upon the interactive effects of SPARTAN CHARGE CAL (sulfentrazone and carfentrazone) and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under General Application Instructions, General SPARTAN CHARGE CAL Product Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with SPARTAN CHARGE CAL. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on SPARTAN CHARGE CAL under specific local conditions.

Restrictions

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

Do not apply SPARTAN CHARGE CAL after potato emergence from the soil as undesirable crop response may occur.

Do not apply more than 10.2 fl oz/A (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) per twelve-month period.

Do not apply more than 10.2 fl oz/A (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) in a single application.
 Do not apply more than 2 applications per year when using reduced application rate equal or less than 5.1 fl oz/A of this product.
 The twelve-month period is considered to begin upon the initial Spartan application.

Only use for sites, pests, and application methods specified on this labeling.

SOYBEANS (Food, feed and Industrial)

Preplant Burndown, Early Preplant, and Preemergence Applications

Apply SPARTAN CHARGE CAL alone or with other herbicides or liquid fertilizers as a burndown or preemergence treatment prior to planting or within 3 days after planting soybeans to control or suppress weeds using rates in Table below. Properly closed seed furrows are required when applying at planting time or before seed germination. When planting into soil treated preplant with SPARTAN CHARGE CAL, minimize soil disturbance to maintain the herbicide barrier on the soil surface to achieve maximum weed control.

Optimum broad-spectrum control of annual and perennial weeds requires a tank mix with a broad-spectrum burndown herbicide such as glyphosate, glufosinate, or paraquat. SPARTAN CHARGE CAL applied early pre-plant must be applied in combination with the appropriate burndown herbicide such as glyphosate, glufosinate, gramoxone, and/or 2,4-D to achieve acceptable control of existing weeds during application. When tank mixing SPARTAN CHARGE CAL with other products, be sure the SPARTAN CHARGE CAL is added to the spray tank water first. For specific mixing instructions refer to the Mixing and Loading instructions section of this label.

SPARTAN CHARGE CAL Use Rate Table (Soybeans)			
Preplant Burndown, Early Preplant, and Preemergence			
Broadcast Rate	fl oz/A (lb ai/A) SPARTAN CHARGE CAL		
	Soil Texture		
% Organic Matter	Coarse	Medium	Fine
<1.5	5.75 (0.16)-7.75 (0.21)	7.75 (0.21)-8.5 (0.23)	8.5 (0.23)
1.5-3	7.75 (0.21)-8.5 (0.23)	8.5 (0.23)	8.5 (0.23)
>3	8.5 (0.23)	8.5 (0.23)	8.5 (0.23)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories Use higher rates for soils of pH less than 7.0 and lowest rate for pH greater than 7.0 within the rate range.			

Precautions

When applying SPARTAN CHARGE CAL with other registered herbicides, refer to specific label information on precautions, instructions, limitations, application methods and timings, and weeds controlled.

SPARTAN CHARGE CAL is especially effective against a wide range of economic broadleaf weeds. The same processes that SPARTAN CHARGE CAL affects in these weeds can, under certain conditions, be affected in soybeans. These conditions include high pH (7.5 and above), cool weather, prolonged and excessive moisture, seedling diseases, and any other condition, including poor agronomic practices, that are unfavorable to vigorous crop growth. Such effects in soybeans are often observed as stunting and discoloration. The duration of these effects are somewhat dependent on the duration of the adverse growing conditions. These effects lessen and generally diminish with a return to normal growing conditions. **Thorough coverage is essential for control of small susceptible broadleaf weeds.** If thorough coverage is not achieved, postemergent weed control will be poor.

When used as directed, SPARTAN CHARGE CAL will provide preemergent control of the following weeds (refer to POSTEMERGENT WEEDS CONTROLLED section for postemergent weeds controlled):

BROADLEAVES	
Amaranth, Palmer	<i>Amaranthus palmeri</i>
Amaranth, spiny	<i>Amaranthus, spinosus</i>
Amaranth, spleen	<i>Amaranthus dubius</i>
Jimsonweed	<i>Datura stramonium</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, common	<i>Chenopodium album</i>
Morningglory, Entireleaf	<i>Ipomea hederacea integrusc</i>
Morningglory, Ivyleaf	<i>Ipomea hederacea hederacea</i>
Morningglory, Palmleaf	<i>Ipomea Wrightii</i>
Morningglory, purple	<i>Ipomea turbinata</i>
Morningglory, red	<i>Ipomea coccinea</i>
Morningglory, scarlet	<i>Ipomea hederifolia</i>
Morningglory, Smallflower	<i>Jacquemontia tamnifolia</i>
Morningglory, tall	<i>Ipomea, purpurea</i>
Nightshade, black	<i>Solanum nigrum</i>
Nightshade, Eastern black	<i>Solanum americanum</i>
Pigweed, redroot	<i>Amaranthus retroflexus</i>
Pigweed, smooth	<i>Amaranthus hybridus</i>

Smartweed, PA (seedling)	<i>Polygonum pensylvanicum</i>
Thistle, Russian	<i>Lactuca serriola</i>
Waterhemp, common	<i>Amaranthus rudis</i>
Waterhemp, tall	<i>Amaranthus tuberculatos</i>
SEDGES	
Nutsedge, purple	<i>Cyperus rotundus</i>
Nutsedge, yellow	<i>Cyperus esculentus</i>
Sedge, annual	<i>Cares spp.</i>

Restrictions

Do not apply SPARTAN CHARGE CAL Herbicide after crop emergence, or if the seedling is close to the soil surface, as undesirable crop response may occur.

Do not apply more than 8.5 fl oz/A of SPARTAN CHARGE CAL (0.21 lb ai sulfentrazone and 0.02 lb ai carfentrazone-ethyl) per acre per application.

Do not apply more than 8.5 fl oz/A (0.21 lb ai sulfentrazone and 0.023 lb ai carfentrazone-ethyl) in a single application.

Do not apply more than 2 applications per year when using reduced application rate equal or less than 4.2 fl oz/A of this product.

The twelve-month period is considered to begin upon the initial SPARTAN CHARGE CAL application.

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

Do not apply to frozen soils or existing snow cover to prevent SPARTAN CHARGE CAL runoff from rain or snowmelt that may occur following application. Do not apply after crop seed germination.

Only use for sites, pests, and application methods specified on this labeling.

SUGARCANE

SPARTAN CHARGE CAL Use Rate Table (Sugarcane)			
Planting Time and Lay-by Applications			
Broadcast Rate	fl oz/A (lb ai/A)		
% Organic Matter	Soil Texture		
	Coarse	Medium	Fine
<1.5	5.7 (0.16)-7.6(0.21)	7.6(0.21)-10.2(0.28)	10.2(0.28)
1.5-3	7.6(0.21)-10.5(0.29)	10.2(0.28)-12.8(0.35)	12.8(0.35)
>3	10.2(0.28)-12.8(0.35)	12.8(0.35)-15.2(0.42)	15.2(0.42)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories Use higher rates for soils of pH less than 7.0 and lower rates for pH greater than 7.0 within the rate range.			

Apply SPARTAN CHARGE CAL as a broadcast or banded preemergence soil applied treatment for the control of broadleaf weeds, grasses and sedges in sugarcane. Refer to the SPARTAN CHARGE CAL Product Use Rate Section and Table above for specific use information.

Planting Time Applications

Apply SPARTAN CHARGE CAL preemergence to newly planted or ratoon sugarcane. Use the higher rate on clay soils and/or soils with organic matter content higher than 2 percent. Apply either by air in a minimum of 5 gallons of spray per acre or by ground equipment in a minimum of 15 gallons of spray per acre. SPARTAN CHARGE CAL may be applied with other herbicides registered for use in sugarcane.

Aerial Applications

SPARTAN CHARGE CAL may be applied by air in a minimum of 5 gallons of finished spray per acre. SPARTAN CHARGE CAL may be applied with other herbicides or insecticides registered for aerial application in sugarcane.

Lay-by Applications

Apply SPARTAN CHARGE CAL as a directed spray to sugarcane at lay-by timing. Use the higher rate on clay soils and/or soils with organic matter content higher than 2 percent. Apply as a directed spray with ground equipment in a minimum of 15 gallons of spray per acre. SPARTAN CHARGE CAL may be applied with other herbicides registered for use in sugarcane.

Weeds Controlled

When applied according to directions, SPARTAN CHARGE CAL will provide control of:

Morningglory, entireleaf	Morningglory, tall
Morningglory, ivyleaf	Pigweed, red root
Morningglory, red	Nutsedge, yellow

For information on other weeds not listed above, refer to WEEDS CONTROLLED section in this label.

Precautions

These Crop Specific Use directions are based upon the interactive effects of SPARTAN CHARGE CAL (sulfentrazone + carfentrazone) and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under General Application Instructions, General SPARTAN CHARGE CAL Product Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled and any other section of

this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with SPARTAN CHARGE CAL. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on SPARTAN CHARGE CAL under specific local conditions.

Restrictions

Pre-harvest Interval (PHI): Do not apply within 120 days of harvest.

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

Do not allow spray to contact crop leaves.

Do not apply more than 15.2 fl oz/A of SPARTAN CHARGE CAL (0.37 lb ai sulfentrazone and 0.04 lb ai carfentrazone-ethyl) per twelve-month period.

Do not apply more than 15.2 fl oz/A (0.37 lb ai sulfentrazone and 0.04 lb ai carfentrazone-ethyl) in a single application.

Do not apply more than 2 applications per year when using reduced application rate equal or less than 7.6 fl oz/A of this product.

The twelve-month period is considered to begin upon the initial Spartan application.

Only use for sites, pests, and application methods specified on this labeling.

SUNFLOWERS

Fall Application, Preplant Burndown, Early Preplant, and Preemergence Applications

Fall Application

SPARTAN CHARGE CAL may be applied in the fall following crop harvest or in existing fallow fields to control or suppress weeds the following season. The SPARTAN CHARGE CAL Rotational Crop Guidelines must be followed if crops are planted the next season. SPARTAN CHARGE CAL should be applied to the harvested crop stubble or soil surface without incorporation. Moisture in the form of rain or snow will move and activate the product. Do not mechanically incorporate in the fall or spring after application because this activity may destroy the herbicide barrier and weed escapes can occur. Do not apply to frozen soils to prevent SPARTAN CHARGE CAL runoff from rain or snow that may occur following application. SPARTAN CHARGE CAL may be tank mixed with herbicides to control emerged weeds. Sequential applications may be needed depending on weed size. In situations where weed size may interfere with SPARTAN CHARGE CAL reaching the soil surface, a separate burndown application prior to the application of SPARTAN CHARGE CAL will be required. Use full, recommended rates of burndown herbicides in combination with SPARTAN CHARGE CAL, or sequential applications as needed. Higher aerial spray volumes are required when there is a dense weed population or canopy.

SPARTAN CHARGE CAL can be tank mixed with other herbicides. Observe all precautions, instructions, and rotational cropping guidelines of each product's label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions.

Preplant Burndown, Early Preplant, and Preemergence Applications

Apply SPARTAN CHARGE CAL alone or with other herbicides or liquid fertilizers as a burndown or preemergence treatment prior to planting or up to 3 days after planting sunflowers to control or suppress weeds using rates in table below. Properly closed seed furrows are required when applying at planting time or before seed germination. When planting into soil treated preplant with SPARTAN CHARGE CAL, minimize soil disturbance to maintain the herbicide barrier on the soil surface to achieve maximum weed control.

Optimum broad-spectrum control of annual and perennial weeds requires a tank mix with a broad-spectrum burndown herbicide such as glyphosate, glufosinate, or paraquat. When tank mixing SPARTAN CHARGE CAL with other products be sure the SPARTAN CHARGE CAL is added to the spray tank water first. For specific mixing instructions refer to the Mixing and Loading instructions section of this label.

SPARTAN CHARGE CAL Use Rate Table (Sunflowers)			
Fall, Preplant Burndown, Early Preplant, and Preemergence			
Broadcast Rate	fl oz/A (lb ai/A) SPARTAN CHARGE CAL per acre		
	Soil Texture		
% Organic Matter	Coarse	Medium	Fine
<1.5	3.8(0.10)-5.0(0.14)	3.8(0.10)-5.75(0.16)	5.0(0.14)-6.7(0.18)
1.5-3.0	3.8(0.10)-5.75(0.16)	5.0(0.14)-7.75(0.21)	5.75(0.16)-8.6(0.23)
>3	5.0(0.14)-7.75(0.21)	5.75(0.16)-8.6(0.23)	7.75(0.23)-10.2(0.28)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories Use higher rates for soils of pH less than 7.0 and lowest rate for pH greater than 7.0 within the rate range.			

Precautions

Some adverse crop response may occur on coarse textured soils with low organic matter (less than 1.5%) and pH of 7.8 or higher, or on highly eroded soils, hill tops, or in areas of calcareous outcroppings. SPARTAN CHARGE CAL use rates should be reduced or SPARTAN CHARGE CAL should not be used in those areas. Inadequate seed furrow closure or shallow planting (less than 1.0 inch) may result in undesirable crop response. As expected, poor growing conditions such as excessive moisture, low temperatures, soil compaction and diseases may also cause undesirable crop response.

These Crop Specific Use directions are based upon the interactive effects of SPARTAN CHARGE CAL and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under General Application Instructions, General SPARTAN CHARGE CAL Product Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with SPARTAN CHARGE CAL. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on SPARTAN CHARGE CAL under specific local conditions.

Thorough coverage is essential for control of small susceptible broadleaf weeds. If thorough coverage is not achieved, postemergent weed control will be poor. Optimum broad-spectrum control of annual and perennial weeds requires a tank-mix of with a broad-spectrum burndown herbicide such as glyphosate, glufosinate, or paraquat.

If adequate moisture (1/2" to 1" of rainfall or irrigation) is not received within 7 to 10 days and also if dry conditions persist throughout the growing season, erratic preemergent weed control may result. Additional moisture is needed throughout the growing season to maintain herbicide activity and prevent weed escapes.

When used as directed, SPARTAN CHARGE CAL will provide preemergent control of the following weeds (refer to POSTEMERGENT WEEDS CONTROLLED section for postemergent weeds controlled):

Amaranth, Palmer	Pigweed, red root
Filaree, redstem	Pigweed, smooth
Kochia (ALS and Triazine Resistant)	Sida, prickly
Lambsquarters, common	Thistle, Russian
Morningglory, ivyleaf	Waterhemp, common
Morningglory, tall	Waterhemp, tall
Nightshade, Eastern black	

Restrictions

Do not apply SPARTAN CHARGE CAL Herbicide after crop emergence, or if the seedling is close to the soil surface as undesirable crop response may occur.

Do not apply more than 10.2 fl oz/A of SPARTAN CHARGE CAL (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) per twelve-month period.

Do not apply more than 10.2 fl oz/A (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) in a single application.

Do not apply more than 2 applications per year when using reduced application rate equal or less than 5.1 fl oz/A of this product.

The twelve-month period is considered to begin upon the initial SPARTAN CHARGE CAL application.

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

Do not apply to frozen soils or existing snow cover to prevent SPARTAN CHARGE CAL runoff from rain or snowmelt that may occur following application.

Only use for sites, pests, and application methods specified on this labeling.

DRY SHELLED BEANS AND PEAS

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, blackeyed pea, catjang, cowpea, crowder pea moth bean, lentil, mung bean, rice bean, southern pea, urd bean); broad bean (dry); chickpea; guar; lab lab bean; pea (*Pisum*) (includes dry field pea) and pigeon pea (**see Table below for application rates**).

Fall Applications

SPARTAN CHARGE CAL may be applied in the fall as a preplant treatment to control or suppress weeds prior to planting the following spring. SPARTAN CHARGE CAL should be applied to the stubble or soil surface and allow moisture from rainfall or snow to move the product into the soil. Do not mechanically incorporate in the fall or spring as this can destroy the herbicide barrier and weed escapes can occur. Do not apply to frozen soils or to existing snow cover to prevent SPARTAN CHARGE CAL runoff from rain or snow melt that may occur following application. SPARTAN CHARGE CAL may be tank mixed with other residual soil herbicides that are labeled for fall use on dry bean and dry peas. If weeds are emerged at the time of SPARTAN CHARGE CAL application, use a burndown herbicide such as glyphosate or paraquat at the full-labeled rate in combination with SPARTAN CHARGE CAL or split application as needed. Select the appropriate rate from the table below within the correct soil type and organic matter range. When applying SPARTAN CHARGE CAL in the fall, use a mid to high rate within the rate range for the appropriate soil type and organic matter.

Preplant Burndown, Early Preplant, and Preemergence Applications

Apply SPARTAN CHARGE CAL alone or with other herbicides or liquid fertilizers as a burndown or preemergence treatment prior to planting or up to 3 days after planting dry shelled peas and beans to control or suppress weeds. Properly closed seed furrows are required when applying at planting time. When planting into soil treated preplant with SPARTAN CHARGE CAL, minimize soil disturbance to maintain the herbicide barrier on the soil surface to achieve maximum weed control.

Optimum broad-spectrum control of annual and perennial weeds requires a tank mix with a broad-spectrum burndown herbicide such as glyphosate, glufosinate, or paraquat. When tank mixing SPARTAN CHARGE CAL with other products be sure the SPARTAN CHARGE CAL is added to the spray tank water first. For specific mixing instructions refer to the Mixing and Loading instructions section of this label.

SPARTAN CHARGE CAL Use Rate Table (Dry Shelled Beans and Peas)			
Fall, Preplant Burndown, Early Preplant, and Preemergence			
Broadcast Rate	fl oz/A (lb ai/A) SPARTAN CHARGE CAL		
	Soil Texture		
% Organic Matter	Coarse	Medium	Fine
<1.5%	3.0(0.08) – 3.75(0.10)	3.75(0.1) – 5.75(0.16)	3.75(0.10) – 5.75(0.16)
1.5-3.0 %	3.75(0.10) – 5.75(0.16)	5.0(0.14) – 7.75(0.21)	5.75(0.16) – 7.75(0.21)
>3.0 %	5.0(0.14) – 7.75(0.21)	5.75(0.16) – 8.6(0.23)	6.7(0.18) – 10.2(0.28)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories Use higher rates for soils of pH less than 7.0 and lowest rate for pH greater than 7.0 within the rate range.			

Precautions

Best results are achieved with SPARTAN CHARGE CAL when applications are made early preplant and greater than 14 days before planting.

Some adverse crop response may occur on coarse textured soils with low organic matter (less than 1.5%) and pH of 7.8 or higher, or on highly eroded soils (such as hilltops), or in areas of calcareous outcroppings. SPARTAN CHARGE CAL use rates should be reduced or SPARTAN CHARGE CAL should not be used in those areas. Inadequate seed furrow closure or shallow planting (less than 1.0 inch) may result in undesirable crop response. As expected, poor growing conditions such as excessive moisture, low temperatures, soil compaction and diseases may also cause undesirable crop response.

These Crop Specific Use directions are based upon the interactive effects of SPARTAN CHARGE CAL and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under General Application Instructions, General SPARTAN CHARGE CAL Product Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with SPARTAN CHARGE CAL. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on SPARTAN CHARGE CAL under specific local conditions.

Thorough coverage is essential for control of small susceptible broadleaf weeds. If thorough coverage is not achieved, postemergent weed control will be poor. Optimum broad-spectrum control of annual and perennial weeds requires a tank-mix of with a broad-spectrum burndown herbicide such as glyphosate, glufosinate, or paraquat.

If adequate moisture (1/2" to 1" of rainfall or irrigation) is not received within 7 to 10 days and also if dry conditions persist throughout the growing season, erratic preemergent weed control may result. Additional moisture is needed throughout the growing season to maintain herbicide activity and prevent weed escapes.

When used as directed, SPARTAN CHARGE CAL will provide preemergent control of the following weeds (refer to POSTEMERGENT WEEDS CONTROLLED section for postemergent weeds controlled):

Amaranth, Palmer	Pigweed, red root
Filaree, redstem	Pigweed, smooth
Kochia (ALS and Triazine Resistant)	Sida, prickly
Lambsquarters, common	Thistle, Russian
Morningglory, ivyleaf	Waterhemp, common
Morningglory, tall	Waterhemp, tall
Nightshade, Eastern black	

Restrictions

Do not apply SPARTAN CHARGE CAL Herbicide after crop emergence, or if the seedling is close to the soil surface, as undesirable crop response may occur.

Do not apply more than 10.2 fl oz/A (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) per twelve-month period.

Do not apply more than 10.2 fl oz/A (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) in a single application.

Do not apply more than 2 applications per year when using reduced application rate equal or less than 5.1 fl oz/A of this product.

The twelve-month period is considered to begin upon the initial SPARTAN CHARGE CAL application.

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

Do not apply to frozen soils or to existing snow cover to prevent SPARTAN CHARGE CAL runoff from rain or snow melt that may occur following application.

Only use for sites, pests, and application methods specified on this labeling.

TOBACCO (Burley, Flue-Cured and Dark)

SPARTAN CHARGE CAL Use Rate Table (Tobacco)			
Preemergence and Preplant Incorporated Applications			
Broadcast Rate	fl oz/A (lb ai/A) SPARTAN CHARGE CAL per acre		
Soil Texture			
% Organic Matter	Coarse	Medium	Fine
<1.5	5.7 (0.16)-7.6(0.21)	7.6(0.21)-10.2(0.28)	10.2(0.28)
1.5-3.0	7.6(0.21)-10.2(0.28)	10.2(0.28)-12.8(0.35)	12.8(0.35)
>3	10.2(0.28)-12.8(0.35)	12.8(0.35)-15.2(0.42)	15.2(0.42)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories Use higher rates for soils of pH less than 7.0 and lower rates for pH greater than 7.0 within the rate range.			

SPARTAN CHARGE CAL may be surface applied or preplant incorporated (to a depth no greater than 2 inches) from 14 days to 12 hours days prior to transplanting tobacco. Incorporating SPARTAN CHARGE CAL deeper than 2 inches can result in inconsistent weed control.

Broadcast apply the appropriate SPARTAN CHARGE CAL rate from Table above, in a minimum of 10 gallons per acre of water, to the soil prior to transplanting.

Non-Bedded (Fields where raised beds are NOT formed prior to transplanting)

Perform all accepted cultural practices for land preparation, fertilizer/fungicide incorporation, etc. prior to the application of SPARTAN CHARGE CAL. Once the field has been prepared for planting, SPARTAN CHARGE CAL may be surface applied or lightly preplant incorporated from 14 days to 12 hours prior to transplanting.

If SPARTAN CHARGE CAL is surface applied and it is necessary to remove equipment tracks from the field after application but prior to transplanting, any light finishing equipment may be used providing the soil is not disturbed to a depth greater than 2 inches.

If timely cultivations are not performed following a pre-transplant surface application, reduced/unacceptable weed control may occur in the drill.

Bedded (Fields where raised beds ARE formed PRIOR to transplanting)

Apply SPARTAN CHARGE CAL to formed beds as a surface application from 14 days to 12 hours prior to transplanting. If it is customary to drag/knock down beds prior to transplanting, this procedure must be performed prior to the SPARTAN CHARGE CAL application.

When incorporating prior to bedding, SPARTAN CHARGE CAL must be thoroughly and uniformly incorporated to a depth no greater than 2 inches to avoid concentrating SPARTAN CHARGE CAL in the bed.

If initial transplanting fails to produce a uniform stand, tobacco may be replanted. DO NOT re-treat field with a second application of SPARTAN CHARGE CAL, or any other herbicide containing sulfentrazone. DO NOT re-bed. Re-transplant into previously formed, treated beds.

For broad spectrum and optimum grass weed control a grass herbicide application will be required.

Weeds Controlled

When Applied according to directions, SPARTAN CHARGE CAL will provide control of:
Filaree, redstem
Amaranthus, livid
Galinsoga, hairy
Lambsquarters, common
Morningglory, ivyleaf
Morningglory, tall
Pigweed, redroot
Pigweed, smooth
Sida, prickly
Signalgrass, broadleaf
Smartweed, Pennsylvania

For information on other weeds not listed above, refer to Weeds Controlled section in this label.

Precautions

Poor agronomic practices, unfavorable pH soils, diseases, cold weather, excessive moisture, drought or other conditions unfavorable to normal plant growth may adversely effect the growth of tobacco transplants. Weakened transplants may be more susceptible to herbicide response and diseases, particularly under poor drainage or compacted soil conditions or when the soil has been saturated for long periods of time. Contact your State Agricultural Extension Service Specialist for consultation as to the agronomic recommendations suited for your tobacco varieties and local conditions. Temporary stunting of tobacco may occur if transplants are set too shallowly, or if heavy rainfall occurs immediately following transplanting. Splashing of treated soil onto tobacco leaves may cause some localized and inconsequential necrosis. Use sound transplanting practices that insure treated soil will not wash or crust over tobacco plants.

These Crop Specific Use directions are based upon the interactive effects of SPARTAN CHARGE CAL (sulfentrazone and carfentrazone-ethyl) and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under Application Instructions, Maximum Allowable SPARTAN CHARGE CAL Use per Acre per 12 Month Period, Crop Rotational Intervals, Replanting Instructions,

Weeds Controlled and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with SPARTAN CHARGE CAL. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on SPARTAN CHARGE CAL under specific local conditions.

Restrictions

Do not use on Shade Grown Tobacco
 Do not apply SPARTAN CHARGE CAL to soils classified as sands containing less than 1% organic matter.
 Do not use SPARTAN CHARGE CAL in tobacco seeding beds or greenhouses.
 Do not apply SPARTAN CHARGE CAL post-transplant as unacceptable injury may occur.
 Do not perform tillage practices that concentrate SPARTAN CHARGE CAL into the bed or crop injury may occur.
 Do not apply more than 15.2 fl oz/A of SPARTAN CHARGE CAL (0.37 lb ai sulfentrazone and 0.04 lb ai carfentrazone-ethyl) per acre per application or per twelve-month period.
 Do not apply more than 15.2 fl oz/A (0.37 lb ai sulfentrazone and 0.04 lb ai carfentrazone-ethyl) in a single application.
 Do not apply more than 2 applications per year when using reduced application rate equal or less than 7.6 fl oz/A of this product.
 The twelve-month period is considered to begin upon the initial F7127 SE HERBICIDE application.
 Do not incorporate greater than 2 inches deep.
 Only use for sites, pests, and application methods specified on this labeling.

PEANUTS

Preplant Burndown, Early Preplant, and Preemergence Applications

Apply SPARTAN CHARGE CAL alone or with other herbicides or liquid fertilizers as a burndown or preemergence treatment prior to planting or within 3 days after planting peanuts to control or suppress weeds using rates in Table below. Properly closed seed furrows are required when applying at planting time or before seed germination. When planting into soil treated preplant with SPARTAN CHARGE CAL, minimize soil disturbance to maintain the herbicide barrier on the soil surface to achieve maximum weed control.

Optimum broad-spectrum control of annual and perennial weeds requires a tank mix with a broad-spectrum burndown herbicide such as glyphosate, glufosinate, or paraquat. When tank mixing SPARTAN CHARGE CAL with other products, be sure the SPARTAN CHARGE CAL is added to the spray tank water first. For specific mixing instructions refer to the Mixing and Loading instructions section of this label.

SPARTAN CHARGE CAL Use Rate Table (Peanuts)			
Fall, Preplant Burndown, Early Preplant, and Preemergence			
Broadcast Rate	fl oz/A (lb ai/A) SPARTAN CHARGE CAL per acre		
	Soil Texture		
% Organic Matter	Coarse	Medium	Fine
<1.5%	3.0(0.08) – 3.75(0.10)	3.75(0.10) – 5.75(0.16)	3.75(0.10) – 5.75(0.16)
1.5-3.0 %	3.75(0.10) – 5.75(0.16)	5.0(0.14) – 7.75(0.21)	5.75(0.16) – 7.75(0.21)
>3.0 %	5.0(0.14) – 7.75(0.21)	5.75(0.16) – 7.75(0.21)	6.5(0.18) – 10.2(0.28)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories Use higher rates for soils of pH less than 7.0 and lowest rate for pH greater than 7.0 within the rate range.			

Precautions

When applying SPARTAN CHARGE CAL with other registered herbicides, refer to specific label information on precautions, instructions, limitations, application methods and timings, and weeds controlled.

SPARTAN CHARGE CAL is especially effective against a wide range of economic broadleaf weeds. The same processes that SPARTAN CHARGE CAL affects in these weeds can, under certain conditions, be affected in peanuts. These conditions include high pH (7.5 and above), cool weather, prolonged and excessive moisture, seedling diseases, and any other condition, including poor agronomic practices, that are unfavorable to vigorous crop growth. Such effects in peanuts are often observed as stunting and discoloration. The duration of these effects are somewhat dependent on the duration of the adverse growing conditions. These effects lessen and generally diminish with a return to normal growing conditions. **Thorough coverage is essential for control of small susceptible broadleaf weeds.** If thorough coverage is not achieved, postemergent weed control will be poor

When used as directed, SPARTAN CHARGE CAL will provide preemergent control of the following weeds (refer to POSTEMERGENT WEEDS CONTROLLED section for postemergent weeds controlled):

BROADLEAVES	
Amaranth, Palmer	<i>Amaranthus palmeri</i>
Amaranth, spiny	<i>Amaranthus, spinosus</i>
Amaranth, spleen	<i>Amaranthus dubius</i>
Jimsonweed	<i>Datura stramonium</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, common	<i>Chenopodium album</i>
Morningglory, Entireleaf	<i>Ipomea hederacea integrisc</i>
Morningglory, Ivyleaf	<i>Ipomea hederacea hederacea</i>

Morningglory, Palmleaf	<i>Ipomea Wrightii</i>
Morningglory, purple	<i>Ipomea turbinata</i>
Morningglory, red	<i>Ipomea coccinea</i>
Morningglory, scarlet	<i>Ipomea hederifolia</i>
Morningglory, Smallflower	<i>Jacquemontia tamnifolia</i>
Morningglory, tall	<i>Ipomea, purpurea</i>
Nightshade, black	<i>Solanum nigrum</i>
Nightshade, Eastern black	<i>Solanum americanum</i>
Pigweed, redroot	<i>Amaranthus retroflexus</i>
Pigweed, smooth	<i>Amaranthus hybridus</i>
Smartweed, PA (seedling)	<i>Polygonum pensylvanicum</i>
Thistle, Russian	<i>Lactuca serriola</i>
Waterhemp, common	<i>Amaranthus rudis</i>
Waterhemp, tall	<i>Amaranthus tuberculatos</i>
SEDGES	
Nutsedge, purple	<i>Cyperus rotundus</i>
Nutsedge, yellow	<i>Cyperus esculentus</i>
Sedge, annual	<i>Cares spp.</i>

Restrictions

Do not apply SPARTAN CHARGE CAL Herbicide after crop emergence, at cracking, or if the seedling is close to the soil surface, as undesirable crop response may occur.

Do not apply more than 10.2 fl oz/A of SPARTAN CHARGE CAL (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) per twelve-month period.

Do not apply more than 10.2 fl oz/A (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) in a single application.

Do not apply more than 2 applications per year when using reduced application rate equal or less than 5.1 fl oz/A of this product.

The twelve-month period is considered to begin upon the initial SPARTAN CHARGE CAL application.

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

Do not apply to frozen soils or existing snow cover to prevent SPARTAN CHARGE CAL runoff from rain or snowmelt that may occur following application. Do not apply after crop seed germination.

Do not feed treated peanut forage or peanut hay to livestock.

Do not irrigate with water having a pH higher than 7.5.

Only use for sites, pests, and application methods specified on this labeling.

CABBAGE (Transplanted Only)

SPARTAN CHARGE CAL Use Rate Table (Cabbage)			
Fall or Spring Early Preplant, Preemergence, and Preplant Incorporated Applications			
Broadcast Rate	fl oz/A (lb ai/A) SPARTAN CHARGE CAL		
	Soil Texture		
% Organic Matter	Coarse	Medium	Fine
<1.5%	2.9(0.08)-3.8(0.10)	3.8(0.10)-5.7(0.16)	3.8(0.10)-7.6(0.21)
1.5-3.0 %	3.8(0.10)-7.6(0.21)	7.6(0.21)-11.4(0.31)	7.6(0.21)-11.4(0.31)
>3.0 %	7.6(0.21)-11.4(0.31)	7.6(0.21)-15.2(0.42)	7.6(0.21)-15.2(0.42)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Use higher rates for soils of pH less than 7.0 and lower rates for pH greater than 7.0 within the rate range.			

Early Preplant (Fall Application or Spring Application)

SPARTAN CHARGE CAL may be applied the fall or spring preceding the growing season to control weeds prior to or up to the planting or transplanting of cabbage. SPARTAN CHARGE CAL may be applied in the spring from 60 days prior to planting up to planting time. SPARTAN CHARGE CAL should be applied to the harvested crop stubble or soil surface without incorporation. Moisture in the form of rain or snow will move and activate the product into the soil. Do not mechanically incorporate in the fall or spring after application as this may destroy the herbicide barrier and weed escapes can occur. Do not apply to frozen soils to prevent SPARTAN CHARGE CAL runoff from rain or snow that may occur following application. SPARTAN CHARGE CAL may be tankmixed with other burndown herbicides to control emerged weeds in the fall or spring or with residual soil herbicides that are labeled for fall use on cabbage. Use the full, recommended rates of burndown herbicides in combination with SPARTAN CHARGE CAL, or split applications as needed. Observe all precautions, instructions, and rotational cropping guidelines of each product's label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions.

Preplant Incorporated (PPI)

SPARTAN CHARGE CAL may be applied as a preplant incorporated treatment in the spring prior to transplanting of cabbage. Do not incorporate to depths greater than 2 inches. SPARTAN CHARGE CAL can be tankmixed with other burndown or soil-applied herbicides labeled for use in cabbage. Use the full, recommended rates of burndown herbicides or split applications as needed. Observe all precautions, instructions and rotational cropping guidelines of each product's label when tank mixing including all references to potential carryover and crop injury warnings or restrictions.

Transplant Cabbage

SPARTAN CHARGE CAL may be applied pre-emergence as a broadcast or banded treatment to transplanted cabbage only. Applications should be made broadcast or banded treatment prior to transplanting. SPARTAN CHARGE CAL may be applied as a banded treatment into the row middles within 72 hours after transplanting.

Weeds Controlled

When Applied according to directions, SPARTAN CHARGE CAL will provide control of:

Galinsoga, hairy	Waterhemp, common
Lambsquarters, common	Waterhemp, tall
Pigweed, redroot	

For information on other weeds not listed above, refer to WEEDS CONTROLLED section in this label.

Precautions

These Crop Specific Use directions are based upon the interactive effects of SPARTAN CHARGE CAL (sulfentrazone and carfentrazone) and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under General Application Instructions, General SPARTAN CHARGE CAL Product Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with SPARTAN CHARGE CAL. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on SPARTAN CHARGE CAL under specific local conditions.

Restrictions

Do not apply more than 15.2 fl oz/A of SPARTAN CHARGE CAL (0.37 lb ai sulfentrazone and 0.04 lb ai carfentrazone-ethyl) per twelve-month period.

Do not apply more than 15.2 fl oz/A (0.37 lb ai sulfentrazone and 0.04 lb ai carfentrazone-ethyl) in a single application.

Do not apply more than 1 applications per twelve month period.

The twelve-month period is considered to begin upon the initial SPARTAN CHARGE CAL application.

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

Do not incorporate to depths greater than 2 inches.

Pre-harvest Interval (PHI): 80 days

Only use for sites, pests, and application methods specified on this labeling.

HORSERADISH

SPARTAN CHARGE CAL Use Rate Table (Horseradish)			
Fall or Spring Early Preplant, Preemergence, and Preplant Incorporated Applications			
Broadcast Rate	fl oz/A (lb ai/A) SPARTAN CHARGE CAL		
	Soil Texture		
% Organic Matter	Coarse	Medium	Fine
<1.5%	2.9(0.08)-5.7(0.16)	3.8(0.10)-5.7(0.16)	3.8(0.10)-5.7(0.16)
1.5-3.0 %	5.7(0.16)-7.6(0.21)	7.6(0.21)-10.2(0.28)	7.6(0.21)-10.2(0.28)
>3.0 %	7.6(0.21)-9.8(0.27)	7.6(0.21)-10.2(0.28)	7.6(0.21)-10.2(0.28)

Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories
Use higher rates for soils of pH less than 7.0 and lower rates for pH greater than 7.0 within the rate range.

SPARTAN CHARGE CAL may be applied as an preplant preemerge or preplant incorporated treatment by ground in a minimum of 15 gallons of finished spray.

Early Preplant (Fall Application or Spring Application)

SPARTAN CHARGE CAL may be applied in the fall or spring preceding the growing season to control or suppress weeds prior to or up to the planting of horseradish. SPARTAN CHARGE CAL may be applied in the spring from 60 days prior to planting up to planting. SPARTAN CHARGE CAL should be applied to the harvested crop stubble or soil surface without incorporation. Moisture in the form of rain or snow will move and activate the product into the soil. Do not mechanically incorporate in the fall or spring after application as this may destroy the herbicide barrier and weed escapes may occur. Do not apply to frozen soils to prevent Spartan runoff from rain or snow that may occur following application. SPARTAN CHARGE CAL may be tankmixed with other burndown herbicides to control emerged weeds in the fall or spring or with residual soil herbicides that are labeled for use on horseradish. Use full, recommended rates of burndown herbicides in combination with SPARTAN CHARGE CAL, or split applications as needed. Observe all precautions, instructions, and rotational cropping guidelines of each product label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions.

Preplant Incorporated (PPI)

SPARTAN CHARGE CAL may be applied as a preplant incorporated treatment in the spring prior to planting of horseradish. Do not incorporate to depths greater than 2 inches. SPARTAN CHARGE CAL can be tankmixed with other burndown or soil-applied herbicides labeled for use on horseradish. Use the full, recommended rates of burndown herbicides or split applications as needed. Observe all precautions, instructions, and rotational cropping guidelines of each product's label when tank mixing including all references to potential carryover and crop injury warnings or restrictions.

Pre-Emergence (PRE)

SPARTAN CHARGE CAL may be applied pre-emergence as a broadcast or banded treatment on horseradish. Applications should be made broadcast prior to planting, broadcast soon after planting but at least 5 days before crop emergence. SPARTAN CHARGE CAL may be applied as a banded treatment into the row middles after crop emergence. Use the higher SPARTAN CHARGE CAL rates on clay soils and/or soils with greater than 1% organic matter. SPARTAN CHARGE CAL may be applied with other pesticides registered for use on horseradish.

Weeds Controlled

When applied according to directions, SPARTAN CHARGE CAL will provide control of:

Lambsquarters, common	Pigweed, redroot
Morningglory, ivyleaf	Waterhemp, common
Nutsedge, yellow	Waterhemp, tall

For information on other weeds not listed above, refer to Weed Controlled section in this label.

Precautions

These Crop Specific Use directions are based upon the interactive effects of SPARTAN CHARGE CAL (sulfentrazone and carfentrazone) and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under General Application Instructions, General SPARTAN CHARGE CAL Product Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with SPARTAN CHARGE CAL. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on SPARTAN CHARGE CAL under specific local conditions.

Restrictions

Do not apply more than 10.2 fl oz/A of SPARTAN CHARGE CAL (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) per twelve-month period.

Do not apply more than 10.2 fl oz/A (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) in a single application.

Do not apply more than 2 applications per year when using reduced application rate equal or less than 5.1 fl oz/A of this product..

The twelve-month period is considered to begin upon the initial Spartan application.

Do not apply directly on the crop after the crop emerges or if the seedling sprouts are close to the soil surface.

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

Do not incorporate to depths greater than 2 inches.

Only use for sites, pests, and application methods specified on this labeling.

SOD PRODUCTION

SPARTAN CHARGE CAL may be applied to established seeded, sodded or sprigged turfgrasses following the second mowing for the control of key grass, sedge and broadleaf weeds. Turf grasses should have developed a good root system, a uniform stand with healthy root systems to fill in the exposed edges prior to application. Sod injury could result from application of this product on sod that is not well established or has been weakened by stresses such as unfavorable weather conditions, diseases, chemical, recent harvesting or mechanical influences.

Turf Grass Tolerance

When applied as directed, the following established turf grasses are tolerant to SPARTAN CHARGE CAL herbicide at the listed use rates.

Tolerant grasses

Grass Type	Maximum Use Rate For Single Application
Cool Season Grasses **	fl oz/A (lb ai/A) SPARTAN CHARGE CAL
Bentgrass, creeping	5.1 (0.14)
Fescue, fine * (Festuca rubra) Fescue, tall * (Festuca arundinacea) Ryegrass, perennial (Lolium perenne) Bluegrass, Kentucky (Poa pratensis) Bluegrass, Rough (Poa trivialis)	5.1(0.14)-10.2(0.28)
Warm Season Grasses **	
Bahiagrass (Paspalum notatum) Buffalograss (Buchloe dactyloides) Carpetgrass (Axonopus affinis) Centipedegrass (Eremochloa ophioides) Kikuyugrass (Pennisetum clandestinum) Seashore Paspalum (Paspalum vaginatum)	10.2(0.28)-15.2(0.42)

Zoysiagrass (<i>Zoysia japonica</i>) Bermudagrass (<i>Cynodon dactylon</i>) Bermudagrass Hybrids (Cyn Bluegrass, St. Augustinegrass (<i>Stenotaphrum secundatum</i>))	
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* Applications of SPARTAN CHARGE CAL to certain varieties of Chewings Fine Fescue or Tall Fescue may result in undesirable plant response.

** It is important to note that not all varieties or cultivars have been evaluated under treatment with SPARTAN CHARGE CAL. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on SPARTAN CHARGE CAL under specific local conditions.

Applications to Reseeded, Overseeded or Sprigged Areas

Reseeding, overseeding or sprigging may be done following SPARTAN CHARGE CAL applications to turfgrasses. If reseeding, overseeding or sprigging is done within 1 month following a SPARTAN CHARGE CAL treatment, the establishment of desirable grasses may be inhibited. Overseeding of bermudagrass with perennial ryegrass may be done two (2) to four (4) weeks following a SPARTAN CHARGE CAL application provided slight grass plant response can be tolerated.

Optimum reseeding and overseeding results may be obtained with the use of mechanical or power seeding equipment, and where proper soil cultivation, irrigation and fertilization practices are followed.

Adjuvant use

Good spray coverage is required for optimum control of weeds. Temporary discoloration of some sod species may result from use of surfactant. Use of surfactants is not recommended.

Postemergence Control of Sedges

SPARTAN CHARGE CAL may be applied at the rate of 4-12 fl oz/A to established turf grasses for the control or suppression of sedges. Select the correct SPARTAN CHARGE CAL use rate from Table above.

When applied as directed, SPARTAN CHARGE CAL will provide control or suppression of the following sedges.

Common Name	Scientific Name
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>

Purple nutsedge: For optimum control of purple nutsedge, split applications are listed below. Apply 4-8 fl oz/A as an initial application followed by a second application when evidence of actively growing purple nutsedge is visible. Do not exceed the maximum rate per acre based on the turf variety as listed in Tolerant Grasses Table.

Split Application Rates for Optimum Purple Nutsedge Control

Grass Type	First Application fl oz/A (lb ai)	Second Application fl oz/A (lb ai)
Cool Season Grasses	2.5(0.07)-5.1(0.14)	2.5(0.07)-7.6(0.21)
Warm Season Grasses	5.1(0.14)-7.6(0.21)	5.1(0.14)-7.6(0.21)

Allow 35 days after first application for second application.

Postemergence Control of Grassy Weeds

SPARTAN CHARGE CAL will control or suppress specific annual grasses listed below when applied at a rate of 4-12 fl oz/A. Apply the highest rate consistent with the rate needed for turfgrass tolerance in Tolerant Grasses Table. Rates lower than 12 fl oz/A will generally control grasses for at least 60 days. SPARTAN CHARGE CAL works best if applied when the annual grasses are small (pre tiller stage) and actively growing.

Common Name	Scientific Name
Goosegrass	<i>Eleusine indica</i>

Postemergence Control of Broadleaf Weeds

SPARTAN CHARGE CAL herbicide will control or suppress the weeds listed in the broadleaf chart below when applied alone shortly after weeds have emerged. SPARTAN CHARGE CAL may be applied at the rate of 4-12 fl oz/A to established turf grasses for the control or suppression of broadleaf weeds. Select the correct SPARTAN CHARGE CAL use rate from Tolerant Grasses Table. For optimum results, Spartan applications should be made shortly after weeds have emerged.

SPARTAN CHARGE CAL may be tankmixed with other herbicides, insecticides and fungicides registered for use on turfgrasses. Read and follow the label recommendations of the tank mix partner to determine turfgrass specie tolerance, use rates and application requirements. Follow all label restrictions, use directions and precautionary statements before use.

When applied as directed, SPARTAN CHARGE CAL will provide control or suppression of the following broadleaf weeds.

Broadleaves	Scientific Names
Bittercress	<i>Cardamine spp.</i>
Black Medic	<i>Medicago lupulina</i>
Buttercup	<i>Ranunculus spp.</i>

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 spp.</i>
Clover	<i>Trifolium spp.</i>
Cudweed	<i>Gnaphalium spp.</i>
Dandelion	<i>Taraxacum officinale</i>
Dock, curly	<i>Rumex crispus</i>
Evening primrose	<i>Oenothera biennis</i>
Fiddleneck	<i>Amsinckia spp.</i>
Filaree	<i>Erodium spp.</i>
Garlic, wild	<i>Allium vineale</i>
Goldenrod	<i>Solidago spp.</i>
Ground ivy	<i>Glechema hederacea</i>
Henbit	<i>Lamium amplexicaule</i>
Knotweed, prostrate	<i>Polygonum aviculare</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, common	<i>Chenopodium album</i>
Lawn burweed	<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, tumble	<i>Amaranthus albus</i>
Pineapple weed	<i>Matricaria matricariodes</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>
Redweed	<i>Melochia corchorifolia</i>
Rocket, London	<i>Sisymbrium irio</i>
Smartweed, PA	<i>Polygonum pensylvanicum</i>
Sorrel, red	<i>Rumex acetosella</i>
Speedwell	<i>Veronica spp.</i>
Spurge, annual	<i>Euphorbia spp.</i>
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, wild	<i>Viola pratensis</i>
Woodsorrel, creeping	<i>Oxalis corniculata</i>
Woodsorrel, yellow	<i>Oxalis stricta</i>

Precautions

The use of additional surfactants may cause temporary undesirable effects to turfgrasses.

Restrictions

Sod production areas must be established three (3) months prior to the initial treatment of SPARTAN CHARGE CAL.

Do not apply SPARTAN CHARGE CAL to golf course greens or tees.

Do apply SPARTAN CHARGE CAL to turf grasses not listed on this label.

Do not apply more than 15.2 fl oz/A of SPARTAN CHARGE CAL (0.37 lb ai sulfentrazone and 0.04 lb ai carfentrazone-ethyl) per twelve-month period.

Do not apply more than 15.2 fl oz/A (0.37 lb ai sulfentrazone and 0.04 lb ai carfentrazone-ethyl) in a single application.

Do not apply more than 3 applications per year when using reduced application rate equal or less than 5.07 fl oz/A of this product.

The twelve-month period is considered to begin upon the initial SPARTAN CHARGE CAL application.

Do not apply with surfactants without on-site evaluations for spray mixture compatibility and physical effects to turf grasses.

Do not graze or feed forage harvested from SPARTAN CHARGE CAL treated areas.

Do not apply to landscape ornamental plants or ornamental beds.

Do not harvest sod within three (3) months of SPARTAN CHARGE CAL application.

Only use for sites, pests, and application methods specified on this labeling.

CITRUS FRUIT, TREE NUTS, GRAPES and BERRIES

Citrus Fruits (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; orange, sweet; pummelo; Russell River lime; satsuma mandarin; sweet lime; tachibana orange; Tahiti lime; tangelo; tangerine (mandarin); tangor; trifoliate orange; uniq fruit; cultivars, varieties, and/or hybrids of these

Preharvest Interval: 3 days

Grapes: Wine, Raisin, Table and Juice, Amur river grape

Preharvest Interval: 3 days

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, Orgeon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, Southern dewberry, tayberry, youngberry, zarzamora, and cultivars, varieties and/or hybrids of these); blueberry, highbush; blueberry, lowbush; buffalo currant; buffaloberry; che; Chilean guava; chokecherry; cloudberry; cranberry; highbush; currant, black; currant, red; elderberry; European barberry; gooseberry; honeysuckle, edible; huckleberry; jostaberry; Juneberry (Saskatoon berry); kiwifruit, fuzzy; kiwifruit, hardy; lingonberry; maypop; mountain pepper berries; mulberry; muntries; native currant; partridgeberry; phalsa; pincherry; raspberry, black and red; riberry; salal; schisandra berry; sea buckthorn; serviceberry; strawberry; wild raspberry; cultivars, varieties, and/or hybrids of these

Preharvest interval: 3 days

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

Preharvest Interval: 3 days

APPLICATION INFORMATION

SPARTAN CHARGE CAL should be applied as a uniform broadcast soil application to orchard and vineyard floors and to berry beds and furrows or as a uniform band application directed to the base of the trunk in trees and vines and to the base of the berry and beds in berry's to provide preemergence control of weeds in Table below.

For best control, SPARTAN CHARGE CAL should be applied as a postemergence herbicide when weeds are present to eliminate emerged weeds.

For broadcast applications, a single application of SPARTAN CHARGE CAL should be made at 7.7 to 15.2 fl oz/A (0.21 to 0.42 lb ai/A). Do not apply more than 15.2 fl oz/A (0.42 lb ai) per twelve-month period. The twelve-month period is considered to begin when the initial application of SPARTAN CHARGE CAL is applied.

For improved weed management, SPARTAN CHARGE CAL can be applied in a tank mixture with other preemergence and postemergence burndown herbicides. Refer to the tank mix partner's labels for additional restrictions, including minimum spray volumes and crops in which they are labeled. Burndown herbicides may include, but are not limited to, Rage D-Tech, glyphosate, paraquat, Rely, and 2,4-D. Do not tank mix with Chateau® herbicides (flumioxazin) or with other products containing sulfentrazone.

When applied as a banded treatment (50% band or less), refer to formula in chart below for rate and volume. SPARTAN CHARGE CAL may be applied twice per year. Do not apply more than 15.2 fl oz/A product (0.42 lb ai) on a broadcast application basis per twelve month period. Allow a minimum of 60 days between applications, unless otherwise specified on the label or separate published FMC recommendations.

For band treatments, apply the broadcast equivalent rate and volume per acre. To determine these:

Band Width Feet	X	Broadcast Rate Per Acre	=	Band Rate
Row Width Feet				
Band Width Feet	X	Broadcast Volume Per Acre	=	Band Volume

A minimum of 10 gallons of spray solution per acre should be used to ensure uniform spray coverage. Nozzle selection should meet manufacturer's spray volume and pressure recommendations for preemergence and postemergence herbicide applications. The spray solution should have a pH between 5.0 and 9.0.

SPARTAN CHARGE CAL should only be applied to crops that have been established for one full growing season and are in good health and vigor. Avoid contact of the spray solution on the green bark of trunks of 1-2 year old vines and trees by wrapping the trunk with a nonporous wrap, grow tubes, or wax containers which will keep the spray solution from coming in direct contact with the green tissue. Avoid direct or indirect spray contact with crop foliage and fruit.

Use ground equipment only. Do not apply using an airblast sprayer or by air. Do not apply using a mechanically pressurized handgun.

Best results are obtained when the soil is moist at the time of application and allows for sufficient time for SPARTAN CHARGE CAL to dry on the weed foliage prior to irrigation or rainfall and the application is followed by at least ½ inch of rainfall or sprinkler irrigation within two weeks after application. Applications should be timed to take advantage of normal rainfall patterns and cool temperatures, especially where drip or micro sprinkler irrigation is used which may not uniformly incorporate the herbicide.

WEED CONTROL INFORMATION

SPARTAN CHARGE CAL provides burndown and is a selective soil-applied herbicide for the control of susceptible broadleaf, grass and sedge weeds found in this section. Adequate moisture of ½ to 1 inch is required within 14 days after application for optimal control. If adequate rainfall is not received in a timely fashion, irrigate with a minimum of ½ inch of water. When activating moisture is delayed, a reduced level of weed control may occur. These escaped weeds can be removed using a burndown herbicide.

Tank mix SPARTAN CHARGE CAL with a burndown herbicide and use an appropriate adjuvant when weeds are present at the time of application. Refer to the tank mix partner's product label for the proper use rates by weed sizes. Use the most restrictive label limitations and precautions of the tank mix product(s).

Residual weed control may be reduced when SPARTAN CHARGE CAL is applied where heavy crop trash such as leaves and branches and /or weed residues exists. It is best to rake or blow off the leaves and trash when they fall and prior to the SPARTAN CHARGE CAL application.

Do not apply after petal fall unless using a hooded or shielded sprayer to ensure that the spray solution will not come in contact with the crop or foliage.

Permanent Crop Weed List

Common Name	Scientific Name
Amaranth, livid	<i>Amaranthus lividus</i>
Amaranth, Palmer	<i>Amaranthus palmeri</i>
Amaranth, Powell	<i>Amaranthus Powell II</i>
Amaranth, spiny	<i>Amaranthus spinosus</i>
Amaranth, spleen	<i>Amaranthus dubius</i>
Anoda, spurred	<i>Anoda cristata</i>
Barnyardgrass, common	<i>Echinochloa crus-galli</i>
Bedstraw, catchweed	<i>Galium aparine</i>
Bindweed, field	<i>Convolvulus arvensis</i>
Bluegrass, annual	<i>Poa annua</i>
Bromegrass species	<i>Bromus spp.</i>
Burclover, California	<i>Medicago polymorpha</i>
Carpetweed	<i>Mollugo verticillata</i>
Cheatgrass	<i>Bromus tectorum</i>
Cheeseweed species	<i>Malva spp.</i>
Chickweed, common	<i>Stellaria media</i>
Clover species	<i>Trifolium spp.</i>
Copperleaf, hophornbeam	<i>Acalypha ostryeafolia</i>
Copperleaf, Virginia	<i>Acalypha virginica</i>
Crabgrass, large	<i>Digitaria sanguinalis</i>
Crabgrass, smooth	<i>Digitaria ischaemum</i>
Crabgrass, Southern	<i>Digitaria ciliaris</i>
Croton, tropic	<i>Croton glandulosus</i>
Crownbeard, golden	<i>Verbesina encelioides</i>
Cupgrass, wooly	<i>Eriochloa villosa</i>
Cyperus, hedgehog	<i>Cyperus compressus</i>
Daisy, American	<i>Eclipta alba</i>
Devilsclaw	<i>Proboscidea louisiana</i>
Dock, curly	<i>Rumex crispus</i>
Eclipta	<i>Eclipta prostrata</i>
Eveningprimrose, cutleaf	<i>Oenothera laciniata</i>
Fescue, Red	<i>Fetuca rubra</i>
Fiddleneck species	<i>Amsinckia spp.</i>
Filaree, broadleaf	<i>Erodium botrys</i>

Filaree, redstem	<i>Erodium cicutarium</i>
Filaree, whitestem	<i>Erodium moschatum</i>
Fleabane, hairy	<i>Conyza bonariensis</i>
Flixweed	<i>Descurainia sophia</i>
Foxtail, bristly	<i>Setari verticillata</i>
Foxtail, giant	<i>Setaria faberi</i>
Foxtail, green	<i>Setaria viridis</i>
Foxtail, yellow	<i>Setaria glauca</i>
Galinsoga, hairy	<i>Galinsoga ciliata</i>
Goosegrass	<i>Eleusine indica</i>
Goosefoot, nettleleaf	<i>Chenopodium murale</i>
Groundcherry, clammy (seedling)	<i>Physalis heterophylla</i>
Groundcherry, cutleaf	<i>Physalis angulata</i>
Groundsel, common	<i>Senecio vulgaris</i>
Henbit	<i>Lamium amplexicaule</i>
Horseweed (Marestail)	<i>Conyza canadensis</i>
Ryegrass, Italian	<i>Lolium multiflorum</i>
Jimsonweed	<i>Datura stramonium</i>
Johnsongrass	<i>Sorghum halpense</i>
Junglerice	<i>Enchinochloa colona</i>
Knotweed, common	<i>Polygonum arenastrum</i>
Kochia (ALS and Triazine Resistant)	<i>Kochia scoparia</i>
Ladysthumb	<i>Polygonum persicaria</i>
Lambsquarters, common	<i>Chenopodium album</i>
Lettuce, miners	<i>Montia perfoliata</i>
Lovegrass species	<i>Eragrostis spp.</i>
Mallow, common	<i>Malva neglecta wall r.</i>
Mallow, little	<i>Malva parviflora</i>
Mayweed, Chamomile	<i>Anthemis cotula l.</i>
Milkweed, honeyvine	<i>Ampelamus albidus</i>
Morningglory, entireleaf	<i>Ipomoea hederacea integruscula</i>
Morningglory, ivyleaf	<i>Ipomoea hederacea hederacea</i>
Morningglory, palmleaf	<i>Ipomoea wrightii</i>
Morningglory, purple	<i>Ipomoea turbinata</i>
Morningglory, red	<i>Ipomoea, coccinea L.</i>
Morningglory, scarlet	<i>Ipomoea coccinea</i>
Morningglory, smallflower	<i>Jacquemontia tamnifolia</i>
Morningglory, tall	<i>Ipomoea, purpurea</i>
Mullein, turkey	<i>Eremocarpus setigerus</i>
Mustard, Species	<i>Brassica spp.</i>
Mustard, tumble	<i>Sisymbrium altissimum</i>
Nettle, burning	<i>Urtica urens</i>
Nightshade, black	<i>Solanum nigrum</i>
Nightshade, Eastern black	<i>Solanum ptycanthum</i>
Nutsedge, purple	<i>Cyperus rotundus</i>
Nutsedge, yellow	<i>Cyperus esculentus</i>
Orchardgrass	<i>Dactylis glomerata</i>
Panicum, fall	<i>Panicum dichotomiflorum</i>
Pigweed, prostrate	<i>Amaranthus blitoides</i>
Pigweed, redroot	<i>Amaranthus retroflexus</i>
Pigweed, smooth	<i>Amaranthus hybridus</i>
Pigweed, Tumble	<i>Amaranthus albus</i>
Pineapple-weed	<i>Chamomilla suaveolens</i>
Plantain, blackseed	<i>Plantago rugelii decne</i>
Plantain, narrow-leaved	<i>Plantago lanceolata</i>
Poorjoe	<i>Diodia teres</i>
Porophyllum	<i>Porophyllum rederale</i>
Poinsettia, wild	<i>Euphorbia heterophylla</i>
Puncturevine	<i>Tribulus terrestris</i>
Purslane, common	<i>Portulaca oleracea</i>
Redmaids	<i>Calandrinia ciliata</i>
Redweed	<i>Melochia corchorifolia</i>
Radish, Wild	<i>Raphanus raphanistrum</i>
Rocket, London	<i>Sisymbrium irio</i>
Sandbur	<i>Cenchrus spinifer</i>
Sedge, annual	<i>Carex spp.</i>

Senna, coffee	<i>Cassia occidentalis</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>
Sida, prickly	<i>Sida spinosa</i>
Sida, Southern	<i>Sida acuta</i>
Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>
Smartweed, PA (seedling)	<i>Polygonum pensylvanicum</i>
Smellmellon	<i>Cucumis melo</i>
Sowthistle species	<i>Sonchus spp.</i>
Srangletop, red	<i>Leptochloa filiformis</i>
Spurge, spotted	<i>Chamaesyce maculate</i>
Starbur, bristly	<i>Acanthospermum hispidum</i>
Stinkgrass	<i>Eragrostis cilianensis</i>
Toadflax, yellow	<i>Linaria vulgaris</i>
Tassleflower, red	<i>Emilio sonchifolia</i>
Thistle, Russian	<i>Salsola kali</i>
Waterhemp, common	<i>Amaranthus rudis</i>
Waterhemp, tall	<i>Amaranthus tuberculatos</i>
Waterprimrose, winged	<i>Ludwigia decurrens</i>
Willowleaf, panicle-leaf	<i>Epilobium brachycarpum</i>
Witchgrass	<i>Panicum capillare</i>

ANNUAL AND PERENNIALSEDGE CONTROL INCLUDING NUTSEDGE

SPARTAN CHARGE CAL applied at 15.2 fl oz/A may provide control or suppression of sedges whether applied preemergence or postemergence. Postemergence application to sedges allows SPARTAN CHARGE CAL to be taken into the sedge through the foliage as well as soil uptake through the roots. Soil uptake is the major means of uptake by sedges. Good spray coverage is required for optimum control of sedges especially when applying postemergence to the sedges. Use a quality nonionic surfactant (NIC) at the rate of 0.25% v/v when applying postemergence.

When applied as directed, SPARTAN CHARGE CAL will provide control or suppression of the following sedges.

Common Name	Scientific Name
Kyllinga, green	<i>Kyllinga brevifolia</i>
Kullinga, 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>

Optimum control of purple nutsedge may be obtained using split applications of SPARTAN CHARGE CAL. Apply 5 – 7.7 fl oz/A followed by a second application to actively growing nutsedge. Do not exceed the maximum rate of 15.2 fl oz/A (0.42 lb ai/A) per twelve month period. SPARTAN CHARGE CAL symptoms on nutsedge will be observed as reduced nutsedge stands, necrosis, chlorosis, and/or stunting. Optimum control may not be observed until the second year after the original treatment.

REPLANTING IN NEW OR MATURE ORCHARDS AND VINEYARDS

Delay replanting at least 30 days after SPARTAN CHARGE CAL applications when replacing trees and vines in established orchards. Use untreated soil when replanting trees and vines.

Precautions

These Crop Specific Use directions are based upon the interactive effects of SPARTAN CHARGE CAL Herbicide and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under Product Application Instructions, SPARTAN CHARGE CAL Herbicide Product Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with SPARTAN CHARGE CAL Herbicide. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on SPARTAN CHARGE CAL Herbicide under specific local conditions. FMC does not recommend tank mixing this product with other products containing sulfentrazone or other group 14 herbicides as crop injury may occur.

Restrictions

- Use ground equipment only. Do not apply SPARTAN CHARGE CAL using airblast sprayers or by air. Do not apply using a mechanically pressurized handgun.
- Do not apply more than 15.2 fl oz/A product (0.37 lb ai sulfentrazone and 0.04 lb ai carfentrazone-ethyl) per 12 month period
- Do not apply more than 15.2 fl oz/A (0.37 lb ai sulfentrazone and 0.04 lb ai carfentrazone-ethyl) in a single application.
- Do not apply more than 3 applications per year when using reduced application rate equal or less than 5.07 fl oz/A of this product.
- The twelve-month period is considered to begin upon the initial SPARTAN CHARGE CAL application.
- Apply to crops that have been growing for at least one full year and are in good condition.

- Avoid direct or indirect spray contact to foliage and green bark (wrap trunk with non-porous wrap, grow tubes, or wax containers to keep spray solution off of green tissue).
- Do not apply to powdery soils or soils where wind may displace the soil, unless irrigation can be applied immediately after application.
- Follow the most restrictive label of tank mix partners including all references to potential carryover and crop injury warnings or restrictions.
- Pre-harvest Interval (PHI): 3 days
- If two banded treatments are made in a growing season, allow a minimum of 60 days between applications ; however, do not exceed the seasonal maximum use rate.
- Only use for sites, pests, and application methods specified on this labeling.

FLAX

APPLICATION TIMING - Fall Application, Early Preplant, and Preemergence Applications

FALL APPLICATION

SPARTAN CHARGE CAL may be applied in the fall following crop harvest or in existing fallow fields to control or suppress weeds the following season. The SPARTAN CHARGE CAL Rotational Crop Guidelines must be followed if crops are planted the next season. SPARTAN CHARGE CAL should be applied to the harvested crop stubble or soil surface without incorporation. Moisture in the form of rain or snow will move and activate the product. Do not mechanically incorporate in the fall or spring after application because this activity may destroy the herbicide barrier and weed escapes can occur. Do not apply to frozen soils to prevent SPARTAN CHARGE CAL runoff from rain or snow that may occur following application. SPARTAN CHARGE CAL may be tank mixed with herbicides to control emerged weeds. Sequential applications of burndown herbicides may be needed depending on weed size. In situations where weed size may interfere with SPARTAN CHARGE CAL reaching the soil surface, a separate burndown application prior to the application of SPARTAN CHARGE CAL will be required. Use full, recommended rates of burndown herbicides in combination with SPARTAN CHARGE CAL, or sequential applications as needed. Higher aerial spray volumes are required when there is a dense weed population or canopy. Thorough coverage is essential for post-emergence control of small susceptible labeled broadleaf weeds in combination with glyphosate.

SPARTAN CHARGE CAL can be tank mixed with other herbicides. Observe all precautions, instructions, and rotational cropping guidelines of each product's label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions.

SPRING APPLICATION - Early Preplant, and Preemergence Applications

Apply SPARTAN CHARGE CAL alone or with other herbicides as a preemergence treatment prior to planting or up to 3 days after planting flax for preemergence control of susceptible broadleaf weeds using rates recommended in table below. Properly closed seed furrows are required when applying at planting time or before seed germination. When planting into soil treated preplant with SPARTAN CHARGE CAL, minimize soil disturbance to maintain the herbicide barrier on the soil surface to achieve maximum weed control.

When tank mixing SPARTAN CHARGE CAL with other products be sure the SPARTAN CHARGE CAL is added to the spray tank water first. For specific mixing instructions refer to the Mixing and Loading instructions section of this label.

SPARTAN CHARGE CAL Use Rate Table (Flax)			
Fall, Preplant Burndown, Early Preplant, and Preemergence			
Broadcast Rate	fl oz/A SPARTAN CHARGE CAL		
	Soil Texture		
% Organic Matter	Coarse	Medium	Fine
<1.5	3.75 – 5.0	3.75 – 5.75	5.0 – 6.5
1.5-3.0	3.75 – 5.75	5.0 – 7.75	5.75 – 8.5
>3	5.0 – 7.75	5.75 – 8.5	7.75 – 10.2
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories Use higher rates for soils of pH less than 7.0 and lowest rate for pH greater than 7.0 within the rate range.			

Precautions

Some adverse crop response may occur on coarse textured soils with low organic matter (less than 1.5%) and pH of 7.0 or higher, or on highly eroded soils, hill tops, or in areas of calcareous outcroppings. SPARTAN CHARGE CAL use rates should be reduced to 3.75 oz/A or SPARTAN CHARGE CAL should not be used in those areas. Inadequate seed furrow closure or shallow planting (less than 1.0 inch) may result in undesirable crop response. As expected, poor growing conditions such as excessive moisture, low temperatures, soil compaction and diseases may also cause undesirable crop response.

These Crop Specific Use directions are based upon the interactive effects of SPARTAN CHARGE CAL and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under General Application Instructions, General SPARTAN CHARGE CAL Product Use Rates, Crop Rotational Intervals, Replanting Instructions, Weed Controlled and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under

treatment with SPARTAN CHARGE CAL. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on SPARTAN CHARGE CAL under specific local conditions.

Weed Control

Thorough coverage is essential for control of small susceptible, emerged broadleaf weeds. If thorough coverage is not achieved, postemergence weed control will be poor. Optimum broad-spectrum post-emergent control of emerged weeds requires a tank mix with a broad-spectrum burndown herbicide such as glyphosate. Failure to achieve adequate burndown of existing vegetation prior to flax planting can result in poor crop growing conditions the remainder of the season. When tank-mixing SPARTAN CHARGE CAL with other burndown herbicides for control of emerged weeds, it is recommended to use a full rate of the tank-mix herbicide. If adequate moisture (1/2" to 1" of rainfall or irrigation) is not received within 7 to 10 days and also if dry conditions persist throughout the growing season, erratic preemergence weed control may result. Additional moisture is needed throughout the growing season to maintain herbicide activity and prevent weed escapes.

When used as directed, SPARTAN CHARGE CAL will provide preemergence control of the following weeds (refer to POSTEMERGENT WEEDS CONTROLLED section for postemergence weeds controlled):

Kochia (ALS and Triazine Resistant)	
Morningglory, ivyleaf*	
Morningglory, tall*	
Nightshade, Eastern black	

* Partial or reduced control of the weeds listed above will occur under dry conditions, under heavy pest pressure or at low use rates under 5.75 oz.

Restrictions

Do not apply SPARTAN CHARGE CAL after crop emergence, or if the seedling is close to the soil surface as undesirable crop response may occur.

Do not apply more than 10.2 fl oz/A of SPARTAN CHARGE CAL (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) per twelve-month period.

Do not apply more than 10.2 fl oz/A (0.25 lb ai sulfentrazone and 0.03 lb ai carfentrazone-ethyl) in a single application.

Do not apply more than 2 applications per year when using reduced application rate equal or less than 5.1 fl oz/A of this product.

The twelve-month period is considered to begin upon the initial SPARTAN CHARGE CAL application.

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

Do not apply to frozen soils or existing snow cover to prevent SPARTAN CHARGE CAL runoff from rain or snowmelt that may occur following application.

Only use for sites, pests, and application methods specified on this labeling.

Storage and Disposal

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

Pesticide storage

Store product in original container only, away from other pesticides, fertilizer, food or feed. Store in a cool dry place and avoid excess heat. Do not store below 32F degrees.

In Case of Spill

Avoid contact. Isolate areas and keep out animals and unprotected persons.

To Confine Spills.

Dike surrounding area, sweep up spillage, Dispose of in accordance with information given under Pesticide Disposal. Wash spill area with water, absorb with sand, cat litter or commercial clay, sweep up and dispose of in an approved manner. Place damaged container in a large holding container. Identify contents per required hazardous waste labeling regulations.

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 of the nearest EPA Regional Office for guidance.

Container Handling

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: (For containers greater than 5 gallons) Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. (For containers 5 gallons or less) Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Triple rinse (or equivalent). Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Returnable/Refillable Containers - Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

Notice: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product.

If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control of FMC or Seller. All such risks shall be assumed by Buyer and User, and, to the extent consistent with applicable law, Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) seller or FMC, and, to the extent consistent with applicable law, buyer assumes the risk of any such use.

To the extent consistent with applicable law, FMC or seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF FMC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF FMC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

This Conditions of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement.

LABEL TRACKING INFORMATION

Label Code: D-4151 041420 xx-xx-xx

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