

Code 1850

Net Weight



For Agricultural or Commercial Use Only

EPA Reg. No. 279-3189

EPA Est. 279-

Active Ingredient:	By Wt.
Sulfentrazone*	75.0%
Inert Ingredients:	25.0%
	100.0%

*N-[2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]methanesulfonamide
Contains 0.75 pounds of active ingredient per pound formulated.
U.S. Patent No. 4,818,275

KEEP OUT OF REACH OF CHILDREN

CAUTION

STATEMENT OF PRACTICAL TREATMENT

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. If person is unconscious, do not give anything by mouth or induce vomiting.

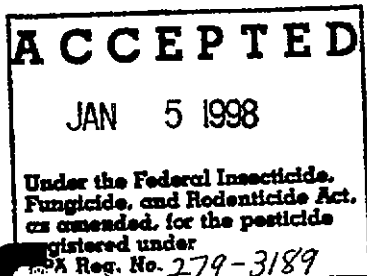
If inhaled: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

If on skin: Wash with plenty of soap and water. Get medical attention.

If in eyes: Flush eyes with plenty of water. Call a physician if irritation persists.

For Emergency Assistance Call (800) 331-3148.

See other panels for additional precautionary information.



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Agricultural Products Group
Philadelphia PA 19103

11/97 draft

PRECAUTIONARY STATEMENTS

Hazards to Humans (and Domestic Animals)

Caution

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

Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, 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, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations:

Users should:

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

Environmental Hazards

This pesticide is toxic to marine/estuarine invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to terrestrial and aquatic plants in neighboring areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

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

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

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

Physical/Chemical Hazards

Do not use or store near heat or open flame.

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DIRECTIONS FOR USE

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

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

Do not apply Spartan more than once per season.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the Agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

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

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

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

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.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call FMC: (800) 331-3148.

To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal

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

Container Disposal

Triple rinse (or equivalent). Then offer for recycling 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.

GENERAL INFORMATION

Spartan is a selective soil-applied herbicide for the control of certain broadleaf weeds, grasses and sedges in tobacco. When applied according to directions, it will provide control of susceptible species. Spartan is formulated as a water dispersible granule containing 75% of the active ingredient, sulfentrazone.

The mode of action of Spartan involves uptake by weed roots and shoots. Preemergence and preplant incorporated applications of Spartan require rainfall or irrigation to activate the herbicide. The amount of rainfall or irrigation required for activation following application depends on existing soil moisture, organic matter content and soil texture. If adequate moisture ($\frac{1}{2}$ " to 1") is not received within 7 to 10 days after the Spartan treatment, a shallow cultivation may be needed to obtain desired weed control. When sufficient moisture is received after dry conditions, Spartan will provide control of susceptible germinating weeds.

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.

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 washwater, and rainwater that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain 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.

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

GENERAL APPLICATION INFORMATION

For Use on Tobacco (Burley, Flue-Cured and Dark)

Do Not Use On Shade Grown Tobacco

Ground application only

Use a standard low pressure herbicide boom sprayer equipped with suitable nozzles and screens. Apply uniformly using properly calibrated nozzles (10 to 40 psi) and screens and strainers no finer than 50 mesh. Use 10 to 40 gallons of spray solution per acre.

Water must be used as the carrier for Spartan when applied alone, or when tank mixed with other tobacco herbicides.

Continuous agitation during application is required. Avoid overlap. Shut off spray booms while turning, slowing or stopping, as over application may result. Avoid letting Spartan sit overnight as settling of product and difficulty of resuspending may occur.

To avoid injury to sensitive crops, spray equipment used for Spartan applications must be drained and thoroughly cleaned with water plus ammonia before being used to apply other products.

Do not allow spray to drift onto adjacent crops or plants as injury to other plants may occur. To avoid drift, applicators must observe the following precautions:

Spray Drift Precautions

Do not spray when wind speeds exceed 10 mph. Do not exceed a spray pressure of 40 psi.

Band Treatment Applications

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

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast Rate Per Acre} = \text{Band rate per acre}$$

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast Volume Per Acre} = \text{Band volume per acre}$$

SPRAY TANK PREPARATION

It is important that spray equipment is clean and free of existing pesticide deposits before using Spartan. Follow the spray tank clean out procedures specified on the label of product previously applied before adding Spartan to the tank.

MIXING INSTRUCTIONS

Spartan herbicide may be tank mixed with Command 3ME herbicide for the control of additional weed species. Mixtures with some other tobacco pesticides have not been tested. Conduct an appropriate compatibility test prior to tank mixing with products other than Command herbicide, see below. Follow all precautions and restrictions on the tank mix partner label.

For best results fill spray tank with one fourth of the volume of clean water needed for the field to be treated. Start agitation system, add Spartan per directions under APPLICATION INFORMATION. Continuous spray tank agitation is required at all times to keep the product in suspension. Make sure Spartan is thoroughly mixed before application or before adding another product to the spray tank. To improve mixing and application make a slurry with water before adding Spartan to the tank.

For tank mixtures with other tobacco herbicide(s), a jar test should be conducted to ensure product compatibility before full-scale mixing. Provided the jar test indicates the mixture to be compatible, prepare the tank mixture as follows: Fill spray tank one fourth full with water. With agitator operating, add the recommended amounts of ingredients using the following order: dry granules first, liquid suspensions (flowables) second. Add EC products followed by water soluble products to tank as agitation continues and tank is filled with water. All applicable directions, restrictions and precautions for the tank mixture herbicide(s) must be followed.

Use Spartan spray mixture immediately after mixing. Do not store mixture. If Spartan was tank mixed with other tobacco herbicides, all additional directions, restrictions and precautions for the additional herbicides must also be followed.

SPRAYER CLEANUP

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. Carefully follow sprayer clean-up instructions noted below to prevent spray tank residues from damaging other crops.

Drain the spray tank and spray system and completely flush with water plus ammonia. Then, remove all spray tips and strainers and clean separately in a bucket containing water.

Dispose of excess spray mixture and/or rinsate by application to cropland as described on this label. If excess spray mixture and/or rinsate cannot be disposed of according to label instructions, dispose of in compliance with local, state and federal guidelines. Contact your state pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA regional office for guidance.

APPLICATION INSTRUCTIONS

Spartan Rate Table		
Soil Texture**	Ounces of Product per Acre*	
	% Organic Matter***	
	0-2	2-4
Coarse	5.3	6.7
Medium	6.7	8.0
Fine	8.0	8.0

* One pound of Spartan contains 0.75 pounds of active ingredient.
** Refer to the information on soil types under the COARSE, MEDIUM and FINE categories in the lists below.
*** Do not apply Spartan to soils classified as sand with less than 1% Organic Matter.

COARSE

Sand
Loamy sands
Sandy loams

MEDIUM

Loams
Silt loams
Silt

FINE

Silty clay loams
Sandy clay loams
Silty clays
Sandy clays
Clay loams
Clays

Spartan may be surface applied or preplant incorporated (to a depth no greater than 2 inches) up to 14 days prior to transplanting tobacco. Incorporating Spartan deeper than 2 inches can result in inconsistent weed control.

For best performance a tankmix of Spartan plus Command herbicide is recommended.

Broadcast apply the appropriate Spartan rate from the table above, in a minimum of 10 gallons per acre of water, to the soil prior to setting transplants as follows:

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. Once the field has been prepared for planting, Spartan may be surface applied or lightly preplant incorporated up to 14 days prior to transplant.

If Spartan 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.

Bedded - Fields where raised beds ARE formed prior to transplanting:

Apply Spartan to formed beds as a surface application up to 14 days prior to transplanting. If it is customary to drag/knock down beds prior to transplanting, this procedure must be performed prior to the Spartan application.

When incorporating prior to bedding, Spartan must be thoroughly and uniformly incorporated to avoid concentrating Spartan in the bed. This will prevent crop injury or inconsistent weed control.

If the soil must be worked after a Spartan application but prior to transplanting, use only equipment that will not disturb the soil to a depth greater than 2 inches.

WEEDS CONTROLLED:

Preemergence: All States

When used as directed, a soil applied treatment of Spartan will provide control or suppression of the following weeds:

BROADLEAVES

Amaranth, Palmer
Amaranth, spiny
Anoda, spurred
Beggarweed, Florida
Carpetweed
Cocklebur, common
Copperleaf, Hophornbeam
Croton, tropic
Daisy, American
Dayflower, common
Galinsoga, hairy
Groundcherry, clammy
Groundcherry, cutleaf
Jimsonweed
Kochia
Ladysthumb
Lambsquarters, common
Mexicanweed
Morningglory:
Entireleaf
Ivyleaf
Palmleaf
Pitted
Purple

GRASSES

Barnyardgrass*
Broadleaf signalgrass
Crabgrass, large
Crabgrass, smooth
Crabgrass, southern*
Crowfootgrass*
Foxtail, giant*

SEDGES

Nutsedge, purple
Nutsedge, yellow
Sedge, annual

* Indicates population suppressed by at least 70%.

Morningglory: (continued)

Red
Smallflower
Tall
Mustard, wild
Nightshade, eastern black
Nightshade, hairy
Nightshade, silverleaf
Pigweed:
Redroot
Smooth
Tumble
Poojoe
Purslane, common
Pusley, Florida
Senna, coffee
Sida, prickly (Teaweed)
Smartweed, Pennsylvania
Smellmellon
Spurge, spotted
Starbur, bristly
Velvetleaf
Waterhemp, common
Waterhemp, tall

Foxtail, green*
Foxtail, yellow*
Goosegrass
Johnsongrass, seedling*
Orchardgrass
Panicum, fall
Panicum, Texas*

ROTATIONAL GUIDELINES

This table shows the minimum interval in months from the time of Spartan application until Spartan treated soil can be replanted to the crops listed. When Spartan is tank mixed with another herbicide, refer to the partner label for recropping instructions, following the directions that are most restrictive.

ROTATIONAL CROP GUIDELINE

Crop	Recropping Interval in Months
Soybeans.....	Anytime
Tobacco.....	Anytime
Wheat, Barley, Rye, Oats, Triticale.....	4
Corn, Field*.....	10
Rice.....	10
Sorghum.....	10
Other Cereal Grains (Buckwheat, Millet, pearl; Millet, proso; Teosinte; Wild rice).....	12
Cotton.....	18 ¹
Sweet Corn.....	18 ¹
Canola.....	24 ¹
Sugar Beets.....	24 ¹

* Field Corn includes only corn grown for grain or silage, popcorn and seed corn.

¹ Crops that have rotational intervals greater than 12 months after a Spartan application are the result of crop injury concerns.

PRECAUTIONS

Do not apply Spartan to soils classified as sands containing less than 1% organic matter, where shallow groundwater is found.

Do not use Spartan in Tobacco seeding beds or greenhouses.

Do not impregnate Spartan on fertilizers.

Apply Spartan as previously noted in the Application Section on page 3. Do not apply Spartan post-transplant or unacceptable injury may occur. Do not perform tillage practices that concentrate Spartan into the bed or crop injury may occur.

Heavy rainfall following transplant can result in tobacco stunting. Injury is more prevalent under poor drainage or compacted conditions or when soil is saturated for long periods of time. Stunting is temporary with no long term effects. Tobacco plants outgrow stunting once favorable growing conditions return.

Soil borne diseases, cold weather, excessive moisture or drought may weaken tobacco transplants and increase the possibility of crop injury.

Temporary stunting of tobacco may occur if transplants are set too shallow, or if heavy rainfall occurs immediately following transplanting. Splashing of treated soil onto tobacco leaves may cause some localized, inconsequential burning. Use sound transplanting practices that insure treated soil will not wash or crust over tobacco plants.

Thoroughly clean Spartan from application equipment immediately after use and prior to spraying crops other than tobacco. Failure to remove even small amounts of Spartan from application equipment may result in injury to subsequent sprayed crops, including tobacco.

REPLANTING INSTRUCTIONS

Tobacco may be replanted into a field that has been treated with Spartan alone, or Spartan tank mixed with Command. Do not retreat fields with a second application of Spartan. When a field has been treated with another labeled product, consult the product label for specific replanting instructions. If the field must be reworked prior to replanting, do not disturb soil to a depth of more than 2 inches, or weed control may be reduced or temporary crop injury may occur.

WEED SCIENTIFIC NAMES

BROADLEAVES

Amaranth, Palmer	(<i>Amaranthus palmeri</i>)
Amaranth, spiny	(<i>Amaranthus spinosus</i>)
Anoda, spurred	(<i>Anoda cristata</i>)
Beggarweed, Florida	(<i>Desmodium tortuosum</i>)
Carpeweed	(<i>Mollugo verticillata</i>)
Cocklebur, common	(<i>Xanthium strumarium</i>)
Copperleaf, Hophornbeam	(<i>Acalypha ostryifolia</i>)
Croton, tropic	(<i>Croton glandulosus</i>)
Daisy, American	(<i>Eclipta alba</i>)
Dayflower, common	(<i>Commelina communis</i>)
Galinsoga, hairy	(<i>Galinsoga ciliata</i>)
Groundcherry, clammy	(<i>Physalis heterophylla</i>)
Groundcherry, cutleaf	(<i>Physalis angulata</i>)
Jimsonweed	(<i>Datura stramonium</i>)
Kochia	(<i>Kochia scoparia</i>)
Ladysthumb	(<i>Polygonum persicaria</i>)
Lambsquarters, common	(<i>Chenopodium album</i>)
Mexicanweed	(<i>Caperonia castaneaefolia</i>)
Morningglory:	
Entireleaf	(<i>Ipomoea integruscula</i>)
Ivyleaf	(<i>Ipomoea hederacea</i>)
Palmleaf	(<i>Ipomoea wrightii</i>)
Pitted	(<i>Ipomoea lacunosa</i>)
Purple	(<i>Ipomoea turbinata</i>)
Red	(<i>Ipomoea coccinea</i>)
Smallflower	(<i>Jacquemontia tamnifolia</i>)
Tall	(<i>Ipomoea purpurea</i>)
Mustard, wild	(<i>Sinapis arvensis</i>)
Nightshade:	
Eastern Black	(<i>Solanum elaeagnifolium</i>)
Halcy	(<i>Solanum elaeagnifolium</i>)
Silverleaf	(<i>Solanum elaeagnifolium</i>)
Pigweed:	
Redroot	(<i>Amaranthus retroflexus</i>)
Smooth	(<i>Amaranthus hybridus</i>)
Tumble	(<i>Amaranthus albus</i>)
Poorjoe	(<i>Diodia teres</i>)
Purslane, common	(<i>Portulaca oleracea</i>)
Pusley, Florida	(<i>Richardia scabra</i>)
Senna, coffee	(<i>Cassia occidentalis</i>)
Sida, prickly (Teaweed)	(<i>Sida spinosa</i>)
Smartweed, Pennsylvania	(<i>Polygonum pennsylvanicum</i>)
Smellmellon	(<i>Cucumis melo</i>)
Spurge, spotted	(<i>Euphorbia maculata</i>)
Starbur, bistly	(<i>Acanthospermum hispidum</i>)
Velvetleaf	(<i>Abutilon theophrasti</i>)
Waterhemp, common	(<i>Amaranthus rudis</i>)
Waterhemp, Tall	(<i>Amaranthus tuberculatus</i>)

GRASSES

Barnyardgrass*	(<i>Echinochloa crus-galli</i>)
Broadleaf signalgrass	(<i>Brachiaria platyphylla</i>)
Crabgrass, large	(<i>Digitaria sanguinalis</i>)
Crabgrass, smooth	(<i>Digitaria ischaemum</i>)
Crabgrass, southern*	(<i>Digitaria ciliaris</i>)
Crowfootgrass*	(<i>Dactyloctenium aegyptium</i>)
Foxtail:	
Giant*	(<i>Setaria faberi</i>)
Green*	(<i>Setaria viridis</i>)
Yellow*	(<i>Setaria glauca</i>)
Goosegrass	(<i>Eleusine indica</i>)
Johnsongrass, seedling*	(<i>Sorghum halepense</i>)
Orchardgrass	(<i>Dactylis glomerata</i>)
Panicum, fall	(<i>Panicum dichotomiflorum</i>)
Panicum, Texas*	(<i>Panicum texanum</i>)

SEDGES

Nutsedge, purple	(<i>Cyperus rotundus</i>)
Nutsedge, yellow	(<i>Cyperus esculentus</i>)
Sedge, annual	(<i>Cyperus compressus</i>)

* Indicates population suppressed by at least 70%.

Dealers Should Sell in Original Packages Only.

Terms of Sale or Use: On purchase of this product buyer and user agree to the following conditions:

Warranty: FMC makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Except as so warranted the product is sold as is. Buyer and user assume all risk of use and/or handling and/or storage of this material when such use and/or handling and/or storage is contrary to label instructions.

Directions and Recommendations: Follow directions carefully. Timing and method of application, weather and crop conditions, mixture with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the seller and are assumed by the buyer at his own risk.

Use of Product: FMC recommendations for the use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice.

Damages: Buyer's or user's exclusive remedy for damages for breach of warranty or negligence shall be limited to direct damages not exceeding the purchase price paid and shall not include incidental or consequential damages.

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