

GROUP 14 HERBICIDE

ANTARES



HERBICIDE

ACTIVE INGREDIENT:

Sulfentrazone 39.6%

OTHER INGREDIENTS: 60.4%

TOTAL: 100.0%

Contains 4 pounds of active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

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

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

For additional Precautionary Statements, First Aid, Storage, Disposal and other user information see inside this label.

Notice: Read this entire label. Use only according to label directions. Before using this product, read Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.

Shake Well Before Using

In case of emergency endangering health or the environment involving this product, call Chemtrec at 1-800-424-9300.

Agricultural Chemical. Do not ship or store with food, feed, drugs or clothing.

EPA Reg. No. 82534-5-5905

EPA Est. No. 70815-GA-002

AD 071117

Manufactured For

HELENA CHEMICAL COMPANY

225 SCHILLING BOULEVARD, SUITE 300 • COLLIERVILLE, TENNESSEE 38017

Job 158691

FIRST AID	
IF INHALED	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a Poison Control Center or doctor for treatment advice.
IF IN EYES	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes. Then continue rinsing eye. • Call a Poison Control Center or doctor for treatment advice.
IF SWALLOWED	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
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 Chemtrec at 1-800-424-9300 for emergency medical information.	
NOTE TO PHYSICIAN	
Sulfentrazone is expected to have low oral and dermal toxicity, and moderate inhalation toxicity. It is expected to be slightly irritating to the skin and minimally irritating to the eyes. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Caution

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 vegetated filter strips, and areas over-lying tile drainage systems that drain to surface waters.

Physical/Chemical Hazards

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Applicators must not exceed labeled rates of this product. Refer to specific crop directions for use for maximum use rates. Calculate the 12 month period for the purpose of maximum use rates from when **ANTARES® HERBICIDE** is first applied.

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

AGRICULTURAL USE REQUIREMENTS

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

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

Personal Protective Equipment (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, and shoes plus socks.

WEED RESISTANCE MANAGEMENT

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

Scouting the application area before applying **ANTARES® HERBICIDE** to identify weeds and their growth stages and again following application of **ANTARES® HERBICIDE** will help to identify performance issues or likely weed resistance.

If levels of control provided by applications of this product is reduced, and cannot be accounted for by factors such as misapplication, abnormal levels of target species or extremes of weather, it may be the case that target species have developed a strain resistant to applications of **ANTARES® HERBICIDE**. If resistance develops, **ANTARES® HERBICIDE** may not provide sufficient control of target species. Where you suspect target species are developing resistance, contact State/local agricultural advisors.

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

In order to limit the possibility of resistance developing, apply **ANTARES® HERBICIDE** in rotation with herbicides that have different modes of action and other classes of chemistry.

PRODUCT INFORMATION

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

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

ANTARES® HERBICIDE has a selective mode of action because sulfentrazone has a greater affinity for the PPO IX enzyme in listed weed species as opposed to listed crops.

ANTARES® HERBICIDE must be prepared and used in such a way so as to prevent the following:

- spills
- improper disposal of spray mixtures, rinsate or any excess pesticide
- back siphoning in wells

Setback

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

- Loading
- Mixing
- Washing/rinsing **ANTARES® HERBICIDE** from application equipment

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

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

- Vehicles delivering pesticide product to the load/mix area

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

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

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

Use Restriction:

This product may only be used to control listed broadleaf, grass and sedge weeds on the following crops: berries; cabbage (transplant only); citrus; dry shelled peas and beans; fallow or post harvest burndown; flax; grapes; horseradish; mint; potatoes; soybeans; strawberry; succulent cowpeas and lima beans (TN only); sugarcane; sunflower; tobacco; and tomato (transplant only).

APPLICATION INSTRUCTIONS

Apply this product in one of the following ways:

- as a surface application, pre-emergence treatment (i.e. before crop and/or weed emergence)
- as a incorporated treatment prior to planting
- Post-plant application
- Over-the-top
- Layby

For further detail, refer to the Crop Specific Use Directions below.

When **ANTARES® HERBICIDE** is used as an incorporated treatment, the product must be incorporated following a uniform surface application to a depth of 2 inches maximum. If it is incorporated to a greater depth, reduced control of target species may result. Applicators must ensure that there is no overlap between areas that have been treated with **ANTARES® HERBICIDE** due to soil movement. Such an overlap could cause an adverse crop response.

When **ANTARES® HERBICIDE** is soil applied or applied as a post-plant treatment, the herbicidal action of the product must be activated by moisture. The amount of moisture required depends upon a number of factors including:

- soil type
- organic matter content
- till
- existing soil moisture at the time of treatment

For an effective application of **ANTARES® HERBICIDE**, 0.5 to 1 inch of irrigation or rainfall is required within 7 to 10 days following treatment. If that level of moisture is not received, shallow incorporation must be undertaken in order to obtain sufficient control of target species. Activating moisture can be delayed for 10-14 days, and sometimes longer, depending on the factors listed above. If activating moisture is delayed, however, control of listed species may be reduced, due to the growth of weeds during the delay.

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

Apply **ANTARES® HERBICIDE** prior to the germination of crop seeds in order to avoid damage to emerging seedlings. Crop damage may occur where treatment is delayed if seeds are germinating, or are close to the soil surface.

If **ANTARES® HERBICIDE** is applied by surface application and activation has not been triggered by rainfall, or irrigation (1/2" to 1" moisture) within 10 days of treatment, make a shallow incorporation (less than 2") of the product so that germinating weed species can be controlled. Soil incorporation will also facilitate product activation with existing soil moisture.

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

Follow Crop Specific Use Directions exactly and with care, particularly for post plant treatments.

Lay-by/Over-the-top applications provide control of listed species through contact and residual control (depending on weed species).

Combining this product with a surfactant may improve control of listed species, but may also increase the risk of crop injury.

Applicators must be aware that certain crops will react differently to treatment with **ANTARES® HERBICIDE** according to the following factors:

- use rate
- specific crop species sensitivity
- soil composition

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

- soil type
- soil pH
- soil organic matter content

Sulfentrazone is adsorbed by the organic matter and clay parts of soils. This absorption reduces the amount of active ingredient available for weed uptake. Clay content in soil tends to increase as the soil gets finer. Crop Use Directions are indicated per soil types. Refer to the following chart to determine the category of a particular soil type:

Coarse Soil	Sand
	Loamy Sand
	Sandy Loam
Medium Soil	Sandy clay loam
	Sandy Clay
	Loam
	Silt Loam
	Silt
Fine Soil	Silty clay loam
	Silty clay
	Clay loam
	Clay

The organic matter in soil will vary widely within soil classifications. In order to assess organic matter soil content, a detailed analysis will be required.

The amount of sulfentrazone available for uptake by weed species will increase as the pH of the soil increases. The pH of the soil must be accurately assessed using representative soil samples. In addition, irrigation with water with a high pH (i.e. alkaline water) following treatment, will increase the amount of available sulfentrazone for uptake by target species. However, if irrigation water pH exceeds 7.5, crop damage may result. The likelihood of an adverse response by crops will decrease as the growth stage of crops advances.

The use rate of this product will be determined by the following factors:

- Timing of treatment
- The amount of activating moisture (rainfall/irrigation)
- Soil parameters
- Soil pH

The Crop Specific Use Directions (below) for each crop, are based on:

- soil type
- soil organic matter
- soil pH interactions

The performance of **ANTARES® HERBICIDE** and crop tolerance is based on strictly following the Crop Specific Use Directions.

Application by Air

- Apply **ANTARES® HERBICIDE** using appropriate nozzles that will allow for optimal coverage, will minimize drift and will keep fine spray droplets to a minimum.
- Do not apply **ANTARES® HERBICIDE** when wind speed is likely to cause drift outside the target area.

Restrictions: Aerial application is allowed only when environmental conditions prohibit ground application. Aerial application will be allowed when the field is too wet to safely apply pesticides using ground equipment. When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre. The maximum release height must be 10 feet from the top of the crop canopy, unless a greater application height is required for pilot safety.

Application by Ground

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

Restrictions: Apply **ANTARES® HERBICIDE** in a minimum spray volume of 10 gallons per acre. Do not apply **ANTARES® HERBICIDE** when wind speed is likely to cause drift outside the target area. When sulfentrazone is tank mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre. For boom spraying, the minimum release height must be 30 inches from the soil for ground applications.

CALIFORNIA ONLY SPECIFIC RESTRICTIONS ON APPLICATIONS OF ANTARES® HERBICIDE

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

- 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 row 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 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 application, all runoff shall be channeled to a holding area off the application site, under the control of the property owner, that is designed to retain all irrigation runoff and all precipitation on, and drainage through, the treated field and all other areas draining onto that holding area. The holding area shall not have a percolation rate of more than 0.2 inches per hour (5 inches per 24 hours); or
- 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 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 the application of this product, or (b) the user applies this product to the planting bed or the berm above the level of irrigation water in the furrow or basin and the water level shall remain at or below that level for 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 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/gmdwtr/gwp_regs.htm

Chemigation Application

ANTARES® HERBICIDE may be applied through sprinkler irrigation systems including center pivot, lateral move, end tow, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect any irrigation system (including greenhouse systems) used for pesticide application to a public water system. Crop injury, lack of effectiveness or illegal residues on or in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

ANTARES® HERBICIDE should be metered into the irrigation system continuously for the duration of the water application. **ANTARES® HERBICIDE** should be diluted in sufficient volume to insure accurate application over the area to be treated. Use the appropriate amount of water to carry the product to the soil surface. Continuous agitation is required to maintain product suspension in the solution tank. A jar test should be conducted to ensure that phase separation would not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable weed control. Flush the lines at the completion of the application and then turn the water off promptly.

When using water from public water systems; **DO NOT APPLY ANTARES® HERBICIDE THROUGH ANY IRRIGATION SYSTEM PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM.** Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year. **ANTARES® HERBICIDE** may be applied through irrigation systems, which may be supplied by a public water system only if water from the water system is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

Crop response to treatment with **ANTARES® HERBICIDE** will depend on the following factors:

- application rate and timing
- volume of water applied and pH
- sensitivity of crop type to treatment with **ANTARES® HERBICIDE**
- growth stage of the crop when irrigated

The amount of sulfentrazone available for uptake by weed species will increase as the pH of the soil increases. The pH of the soil must be accurately assessed using representative soil samples. In addition, irrigation with water with a high pH (i.e. alkaline water) following treatment, will increase the amount of available sulfentrazone for uptake by target species. However, if irrigation water pH exceeds 7.5, crop damage may result. The likelihood of an adverse response by crops will decrease as the growth stage of crops advances.

Application in Combination with Dry Fertilizers

- **ANTARES® HERBICIDE** may be impregnated on and applied in conjunction with a dry bulk fertilizer.
- Only apply combinations of this product and dry fertilizer with ground equipment.
- Do not apply via aerial application.
- Applicators using dry fertilizer must follow state regulations on the preparation of the **ANTARES® HERBICIDE**/fertilizer combination, including mixture preparation, storage, transportation, selling and treatment.

Directions for Dry Fertilizer Impregnation:

- Use the following method for impregnation:
 1. Ensure that spray nozzles are calibrated and positioned for uniform **ANTARES® HERBICIDE** coverage of the dry fertilizer during the mixture process.
 2. Make a slurry with **ANTARES® HERBICIDE** and water in a clean container.
 3. Once made, add the **ANTARES® HERBICIDE**/water slurry to the impregnation spray tank.
 4. Finish the solution by adding water as required.
- For impregnation and application of **ANTARES® HERBICIDE** and dry fertilizer, use a dry bulk fertilizer blender such as a closed rotary-drum mixer that is fitted with appropriate spray application equipment.
- See the CLEANING APPLICATION EQUIPMENT section (below) prior to cleaning equipment used for impregnation, transportation, loading and application of the **ANTARES® HERBICIDE**/dry fertilizer combination.
- **DO NOT** attempt to impregnate coated ammonium nitrate or limestone with **ANTARES® HERBICIDE** as neither can absorb the herbicide.

Application instructions for **ANTARES® HERBICIDE** impregnated dry fertilizers:

- Dry fertilizer impregnated with **ANTARES® HERBICIDE** must be applied using a dry fertilizer spreader. The application equipment must be correctly calibrated for sufficient and uniform coverage of the soil surface. If treatment is not uniform, some areas may go untreated which may cause reduced control of target species.
- Avoid overlapping applications, which may cause labeled use rates to be exceeded, and may cause adverse crop response.
- Apply the dry fertilizer/**ANTARES® HERBICIDE** combination at a rate of at least 200 pounds of impregnated dry bulk fertilizer per acre in order to provide sufficient soil coverage.
 - See the appropriate crop specific section of this label for the use rate of **ANTARES® HERBICIDE** per acre
 - Next, use the following equation to calculate the amount of **ANTARES® HERBICIDE** that must be used to impregnate 2000 pounds (one ton) of dry bulk fertilizer:

fl. oz. of ANTARES® HERBICIDE to be applied per ton of Dry Bulk Fertilizer	=	fl. oz. of ANTARES® HERBICIDE per acre	X	2000	÷	Lbs dry bulk fertilizer applied per acre
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Example 1: If use rate of **ANTARES® HERBICIDE** is 8 fl. oz. per acre, and 200 lbs fertilizer will be applied per acre:

$$(8) (2000 / 200) = 80 \text{ fl. oz. } \mathbf{ANTARES® HERBICIDE} \text{ per ton of dry bulk fertilizer}$$

Example 2: If use rate of **ANTARES® HERBICIDE** is 12 fl. oz. per acre and 400 lbs fertilizer will be applied per acre:

$$(12) (2000 / 400) = 60 \text{ fl. oz. } \mathbf{ANTARES® HERBICIDE} \text{ per ton of dry bulk fertilizer}$$

Application in Combination with Liquid Fertilizers

- **ANTARES® HERBICIDE**, when applied in combination with a liquid fertilizer will provide control of listed weeds.
- Sufficient soil coverage is crucial for control of target species.
- Fertilizer solutions that may be used as a carrier for **ANTARES® HERBICIDE** may be concentrate formulations as blended or diluted in water.

Directions for Liquid Fertilizer Combination:

- The selected spray system must have the spray capacity to allow uniform application of the treatment solution, and must be capable of maintaining agitation in the spray tank throughout the mixture and application procedures.
- Some spray application systems might need separate pumps to apply the solution and maintain agitation at the same time.
- Prior to combining the liquid fertilizer and **ANTARES® HERBICIDE** in the application tank, carry out a compatibility test to ensure that the mixture is stable, homogenous and compatible (In a lidded glass jar (~1 quart size), add all mix partners, in their relative proportions. Invert, shake or mix the jar thoroughly. If mixture forms precipitates (flakes or sludge), gels, balls up or forms oily films or layers, this indicates incompatibility. Though signs of incompatibility will typically be seen within 5 minutes of mixing, mixture should be observed for approximately 30 minutes).
- Combine **ANTARES® HERBICIDE** and the carrier liquid fertilizer as follows:
 1. Fill a clean spray tank ½ full of fertilizer solution.
 2. Begin agitation of the fertilizer solution.
 3. Use a clean container to create a slurry of **ANTARES® HERBICIDE** and water (equal parts of both)*.
 4. Add the slurry slowly to the spray tank, continuing agitation throughout.
 5. Rinse the slurry mix container and add rinsate solution to spray tank.
 6. Finish filling spray tank to required level.
 7. Maintain agitation throughout. The **ANTARES® HERBICIDE**/water slurry must be mixed thoroughly prior to application.

* For best mixing of the **ANTARES® HERBICIDE**/water slurry, add the slurry using induction systems on the sprayer fill plumbing system.

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

Application instructions for **ANTARES® HERBICIDE** mixed with liquid fertilizers:

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

Band Treatment Applications

ANTARES® HERBICIDE can be applied as a banded treatment application. When calculating rates for band treatment, apply the equivalent volume per acre rate for broadcast treatment by using the following equation:

Band Rate or Volume	=	Broadcast Rate (fl. oz./acre) or Volume per acre	X	Band width (in inches)	÷	Row width (in inches)
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Mixing and Loading Instructions

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

Cleaning Application Equipment

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

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

- When application equipment has been idle or in storage, flush the nozzles and spray boom with clean water prior to use for application of product.
- If small amounts of this product remain in equipment after cleaning, **ANTARES® HERBICIDE** may be released during later applications, which may cause an adverse reaction from certain crops/other vegetation. The applicator is solely responsible for any damage caused by equipment that is not properly cleaned.
- Equipment must not be flushed or drained near desirable plants/trees.
- Ensure that bodies of water are not contaminated with application solution, rinsate or cleaning solution, including water that may be used for other crops, i.e. irrigation water.

SPRAY DRIFT REDUCTION ADVISORY

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

Select nozzles and application pressure that deliver medium to coarse or larger spray droplets as indicated in the nozzle manufacturer's recommendations and in accordance with ASABE (S572) standards.

Select coarse to very coarse droplet size when sulfentrazone is used as a preemergent/preplant application.

Select medium to very coarse droplet size when sulfentrazone is used postemergence with a contact burndown herbicide.

Applicators may spray only when wind speed is between 3 and 10 mph.

Do not apply as spray droplets smaller than medium to coarse as defined by the ASABE standard.

Ground applicators must use a minimum finished spray volume of 10 gallons per acre.

When sulfentrazone is tank mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre.

Aerial Applications

Aerial application is allowed only when environmental conditions prohibit ground application. Aerial application will be allowed when the field is too wet to safely apply pesticide using ground equipment.

For aerial applications, the maximum release height must be 10 feet from the top of the crop canopy, unless a greater application height is required for pilot safety.

When the product is allowed to be applied by air, the applicator must use a minimum finished spray volume of 5 gallons per acre.

Spray Drift Management

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

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

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

1. The distance of the outermost nozzles on the boom must not exceed 75% the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.
3. Observe the regulations of the State where applications are made.
4. Applicators must observe and abide by the requirements of the Aerial Drift Reduction Advisory.

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage for pesticide performance. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions. (See information on Wind, Temperature and Humidity, and Temperature Inversions in subsequent sections).

Controlling Spray Droplet Size

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

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

Do not exceed the nozzle manufacturer's specified pressures.

Lower pressure produces larger droplets in many types of nozzles.

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

Nozzle Orientation – For aerial application, the recommended practice is to orient nozzles so that the spray is released parallel to the airstream. This orientation usually produces larger droplets as compared to other nozzle orientations. Significant nozzle deflection from horizontal will reduce droplet size and increase drift potential.

Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low drift nozzles for both ground and aerial applications. Solid stream nozzles oriented straight back usually produce the largest droplets and the lowest drift potential in aerial applications.

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

Application Height – To minimize spray drift, make applications at a height < 10 feet above the top of the target plant canopy unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment – When aerial applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by the path of the aircraft upwind. Increase swath adjustment or offset distance when conditions favor increased drift potential (higher winds, smaller droplets, etc).

Wind – Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Do not make applications below 3 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they may potentially affect spray drift.

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

Temperature Inversions – Do not make applications during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small-suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the low speed and variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common during conditions of limited cloud cover and little to no wind. They often begin to form as the sun sets and may often continue into the morning. The presence of a temperature inversion may be indicated by ground fog. However if fog is not present, the movement of smoke from a ground source or an aircraft smoke generator can also identify inversions. Smoke that remains in layers and moves laterally in a concentrated cloud (under low speed wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

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

ANTARES® HERBICIDE Drift

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

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

Misapplication of this product where label directions are not followed may result in drift. The applicator/user of this product is solely responsible for any misapplication of **ANTARES® HERBICIDE**.

REPLANTING AND ROTATIONAL CROPS

- During replanting, keep soil tillage to a minimum so that the herbicide barrier is preserved, thereby maximizing weed control.
- In the event that the planting of crops listed in label restrictions does not produce a stand, only crops specified in this label or the tank mix partner may be planted. Where there is a tank mixture, the most restrictive label directions must be followed.
- The planted area must not be retreated with **ANTARES® HERBICIDE** or any other product containing sulfentrazone.
- Do not plant crops in previously treated areas unless in full compliance with the Rotational Restrictions (below)

Crop Rotation: Refer to the table below for the minimum interval from the time **ANTARES® HERBICIDE** was last applied until treated areas can be replanted with listed crops.

Crop	Minimum Rotational Interval
Barley Rye Triticale Wheat	4 months
Corn, Field Rice Sorghum ¹	10 months
Alfalfa Cereal Grains (Buckwheat, Oats, Pearl Millet, Proso Millet, Teosinte, Wild Rice) Sweet Potatoes	12 months
Corn, Pop Corn, Sweet Cotton	18 months
Canola	24 months
Sugar Beets	36 months
Berries Cabbage (Transplanted Only) Citrus Cowpea, succulent (TN Only) Dry Field Peas and Chickpeas Flax Grapes Horseradish Lima beans, succulent (TN Only) Mint Potatoes Soybeans Strawberry Sugarcane Sunflower subgroup 20B Tobacco Tomato (Transplanted Only)	Crops can be planted at any point following the application of ANTARES® HERBICIDE

¹18 month minimum rotational interval for sorghum where use rates are greater than 8 oz. of **ANTARES® HERBICIDE** per acre

- Certain crops have a rotational interval of more than 12 months because of sensitivity and the risk of crop injury. Carry out a representative bioassay of the target area on the rotational crop in order to assess the crop's sensitivity to applications of this product.
- For all crops not listed in the table above, there must be a minimum rotational interval of 12 months.
- **FOR ALL TANK MIXTURES:** It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

LISTED WEED SPECIES

When applied in accordance with these label directions (alone or in a tank mixture), **ANTARES® HERBICIDE** will provide control of the following weed species (refer to crop specific section for more details):

Broadleaf and Grass Weeds

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>)	P
Bedstraw, catchweed (<i>Galium aparine</i>)	
Bindweed, field (<i>Convolvulus arvensis</i>)	P
Bluegrass, annual (<i>Poa annua</i>)	P
Bromegrass (<i>Bromus, spp.</i>)	P
Burclover, California (<i>medicago polymorpha</i>)	P
Carpetweed (<i>Mollugo verticillata</i>)	
Cheatgrass (<i>Bromus tectorum</i>)	P
Cheeseweed (<i>Malva spp.</i>)	P
Chickweed, common (<i>Stellaria media</i>)	
Clover (<i>Trifolium spp.</i>)	P
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 prostrate</i>)	
Eveningprimrose, cutleaf (<i>Oenothera laciniata</i>)	P
Fescue, Red (<i>Fetuca rubra</i>)	P
Fiddleneck (<i>Amsinckia spp.</i>)	P
Filaree, broadleaf (<i>Erodium botrys</i>)	P
Filaree, redstem (<i>Erodium cicutarium</i>)	

Filaree, whitestem (<i>Erodium moschatum</i>)	P
Fleabane, hairy (<i>Conyza bonariensis</i>)	P
Flixweed (<i>Descurainia sophia</i>)	
Foxtail, bristly (<i>Setaria verticillata</i>)	P
Foxtail, giant (<i>Setaria faberi</i>)	P
Foxtail, green (<i>Setaria viridis</i>)	P
Foxtail, yellow (<i>Setaria glauca</i>)	P
Galinsoga, hairy (<i>Galinsoga ciliata</i>)	
Goosegrass (<i>Eleusine indica</i>)	
Goosefoot nettleleaf (<i>Chenopodium murale</i>)	P
Groundcherry, clammy (seedling) (<i>Physalis heterophylla</i>)	
Groundcherry, cutleaf (<i>Physalis angulate</i>)	
Groundsel, common (<i>Senecio vulgaris</i>)	P
Henbit (<i>Lamium amplexicaule</i>)	P
Horseweed (Marestail) (<i>Conyza Canadensis</i>)	P
Jimsonweed (<i>Datura stramonium</i>)	
Johnsongrass (<i>Sorghum halpense</i>)	P
Junglerice (<i>Echinochloa colona</i>)	P
Knotweed, common (<i>Polygonum arenastrum</i>)	P
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 (<i>Eragrostis spp.</i>)	P
Mallow, common (<i>Malva neglecta wall r.</i>)	
Mallow, little (<i>Malva parviflora</i>)	P
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>)	

(continued)

Broadleaf and Grass Weeds (continued)

Morningglory, tall (<i>Ipomoea purpurea</i>)	
Mustard (<i>Brassica, spp.</i>)	P
Mustard, tumble (<i>Sisymbrium altissimum</i>)	
Nettle, burning (<i>Urtica urens</i>)	P
Nightshade, black (<i>Solanum nigrum</i>)	
Nightshade, Eastern black (<i>Solanum ptycanthum</i>)	
Orchardgrass (<i>Dactylis glomerata</i>)	
Panicum, fall (<i>Panicum dichotomiflorum</i>)	
Pigweed, prostrate (<i>Amaranthus blitoides</i>)	P
Pigweed, redroot (<i>Amaranthus retroflexus</i>)	
Pigweed, smooth (<i>Amaranthus hybridus</i>)	
Pigweed, tumble (<i>Amaranthus albus</i>)	P
Pineappleweed (<i>Chamomilla suaveolens</i>)	P
Plantain, blackseed (<i>Plantago rugelii decne</i>)	
Plantain, narrow-leaved (<i>Plantago lanceolata</i>)	
Poojoe (<i>Diodia feres</i>)	
Porophyllum (<i>Porophyllum rederule</i>)	
Poinsettia, wild (<i>Euphorbia heterophylla</i>)	
Puncturevine (<i>Tribulus terrestris</i>)	P
Purslane, common (<i>Portulaca oleracea</i>)	
Radish, wild (<i>Raphanus raphanistrum</i>)	P
Redmaids (<i>Calandrinia ciliata</i>)	
Redweed (<i>Melochia corchorifolia</i>)	

Rocket, London (<i>Sisymbrium ino</i>)	P
Ryegrass, Italian (<i>Lolium multiflorum</i>)	P
Sandbur (<i>Cenchrus spinifer</i>)	P
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 (<i>Sonchus, spp.</i>)	P
Sprangletop, red (<i>Leptochloa filiformis</i>)	P
Spurge, spotted (<i>Chamaesyce maculate</i>)	P
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>)	
Witchgrass (<i>Panicum capillare</i>)	

Sedges

Kyllinga, green (<i>Kyllinga brevifolia</i>)	P
Kyllinga, false green (<i>Kyllinga gracillima</i>)	P
Nutsedge, purple (<i>Cyperus rotundus</i>)	
Nutsedge, yellow (<i>Cyperus esculentus</i>)	
Sedge, annual (<i>Carex spp.</i>)	

Sedge, cylindrical (<i>Cyperus retrorsus</i>)	P
Sedge, globe (<i>Cyperus globulosus</i>)	P
Sedge, sunnam (<i>Cyperus sunnamensis</i>)	P
Sedge, Texas (<i>Cyperus polystachyos</i>)	P

When applied as directed, all listed weeds and sedges in the above table are controlled or suppressed by **ANTARES® HERBICIDE** in Permanent crops. Permanent crops are Berries, Citrus, Grapes and Tree Nuts.

Weeds and sedges in the above table denoted with a 'P' are controlled in permanent crops only.

Weeds and sedges without a 'P' designation are controlled in all listed crops.

CROP-SPECIFIC USE DIRECTIONS

Crop	Page
Berries	16-17
Cabbage (Transplant Only)	17
Citrus	18
Dry Field Peas and Chickpeas	19
Fallow or Post Harvest Burndown	20
Flax	21
Grapes	22
Horseradish	23
Mint	24
Potatoes	25
Soybeans	26-27
Strawberry	27
Succulent Cowpeas and Lima Beans (TN Only)	28
Sugarcane	29
Sunflower Subgroup 20B	30
Tobacco	31
Tomato (Transplant Only)	32

BERRIES

(Crop Group 13-07: aronia berry; bayberry; bearberry; bilberry; blackberry (including Andean blackberry, arctic blackberry, bingleberry, black satin berry, boysenberry, brombeere, California blackberry, Chesterberry, Cherokee blackberry, Cheyenne blackberry, common blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, evergreen blackberry, Himalayaberry, hullberry, lavacaberry, loganberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, mora, mures deronce, nectarberry, Northern dewberry, olallieberry, Oregon evergreen berry, 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; 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)

To control susceptible weeds, **ANTARES® HERBICIDE** can be applied broadcast to berry beds and furrows or banded to the base of berries.

See **Listed Weed Species** for information on weeds controlled or suppressed. **ANTARES® HERBICIDE** will control or suppress all weeds (including weeds and sedges designated as 'P' and undesignated weeds and sedges) indicated on weed list.

Application Rates

Broadcast (all soil types)

- Apply 4.0-12.0 fl. oz. (0.125-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

Make only 1 broadcast application in a 12 month period

Banded applications should be made to a 50% or less band, and can consist of 2 applications in a 12 month period (not to exceed 12.0 fl. oz. product (0.375 lb a.i.) per 12 month period)

To determine the appropriate banded application rate, use the following equation:

Band Rate or Volume	=	Broadcast Rate (fl. oz./acre) or Volume per acre	X	Band width (in inches)	÷	Row width (in inches)
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Application Instructions:

Apply the amount of **ANTARES® HERBICIDE** indicated above to the soil in a uniform broadcast application or a banded (50% or less band) application. Make application prior to emergence of weeds, or for postemergent control of weeds. Apply product in at least 10 gallons of finished spray per acre, and make sure that spray solution is in the pH range of 5.0-9.0. Apply with ground equipment only. When applying broadcast, make only 1 application per year. When applying banded (50% or less band), up to 2 applications per year can be made. Observe a 60 day retreatment interval between applications.

For sedge control, the 12 fl. oz. per acre application rate may provide control or suppression when applied to preemerged or postemergent sedge. Make sure that spray coverage is uniform. If applying to postemergent sedge, best results will be obtained if **ANTARES® HERBICIDE** is mixed with 0.25% (v/v) of a quality nonionic surfactant (NIC).

For purple nutsedge control, best results may be obtained by using a split application. Use 4.0-6.0 fl. oz. **ANTARES® HERBICIDE** per acre for the first application, then make a second application to actively growing purple nutsedge (make sure that the maximum yearly rate of 12.0 fl. oz. product per acre is not exceeded). Best control may be observed in the second year after initial **ANTARES® HERBICIDE** application. Look for reduced purple nutsedge stands, stunted growth, or weeds exhibiting necrosis or chlorosis.

For optimum results, apply to moist soil and clean beds. If berry beds contain heavy crop or weed trash, removing trash will result in more effective weed control. At least ½ inch of sprinkler irrigation or rainfall within 14 days of application will result in best control. When moisture is delayed, weed control may be reduced. Consider use of a burndown herbicide to control weed escapes. Micro or drip irrigation may not consistently incorporate **ANTARES® HERBICIDE** into the soil, and in this case, cooler temperatures or application during periods when rainfall is expected can enhance control.

Make application only to berry bushes that have been established for a full growing season, and are healthy. Spray solution should not be allowed to contact green bark of young bushes. Protect green bark from spray solution with a grow tube, wax container or nonporous wrap. Make sure that spray does not contact foliage or fruit, and when applying after petal fall, use a shielded or hooded sprayer.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of berries.

RESTRICTIONS:

- Do not apply more than 0.375 lbs. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period.
- Pre-harvest interval (PHI) is 3 days.
- Do not make more than one **ANTARES® HERBICIDE** broadcast application for up to 2 banded applications or applications for purple nutsedge in a 12 month period. The 12 month period starts at the point of first application.
- Do not apply to soils that can be easily blown by wind (fine or powdery) unless irrigation can be applied immediately after application.
- Do not tank mix with products containing flumioxazin or sulfentrazone.
- Wait at least 30 days after an application of **ANTARES® HERBICIDE** to replanting / replacing berry bushes in established beds. Use untreated soil for new plantings.
- If making two banded treatments, observe a 60 day retreatment interval between applications.
- Do not apply aerially or with an airblast sprayer.
- Do not make application to berry bushes that are younger than 1 year, or are not in good condition.
- Do not contact foliage or green bark with direct or indirect **ANTARES® HERBICIDE** spray. Use hooded or shielded sprayer and nonporous bark cover for protection.

(continued)

BERRIES (continued)

Tank Mixes: For control of a broader spectrum of weeds or pests, **ANTARES® HERBICIDE** can be mixed with other pesticides registered for use on berries. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. When applying to postemergent weeds, consider tank mixing with a burndown herbicide (such as those containing carfentrazone-ethyl, glyphosate, paraquat, glufosinate ammonium or 2,4-D). Do not tank mix with products containing flumioxazin or sulfentrazone.

CABBAGE (Transplanted only)

To control susceptible weeds, **ANTARES® HERBICIDE** can be applied cabbage (transplanted only) at the following times:

In the fall (Preplant), before spring growing season

In the spring (early preplant, preplant incorporated, preemergence)

When applying early preplant to cabbage, the product may be applied only in CO, ID, MI, MN, MT, NE, ND, OR, SD, WA, WI, WY.

When applied as indicated on this label, the following weeds in cabbage will be controlled with **ANTARES® HERBICIDE**:

Gallsoga, hairy Lambsquarters, common Pigweed, redroot Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25-3.0 fl. oz. (0.07-0.095 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.0-6.0 fl. oz. (0.095-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-9.0 fl. oz. (0.19-0.28 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0-4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 6.0-9.0 fl. oz. (0.19-0.28 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-12.0 fl. oz. (0.19-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0-6.0 fl. oz. (0.095-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 6.0-9.0 fl. oz. (0.19-0.28 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-12.0 fl. oz. (0.19-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above to stubble or to the soil surface, in the fall, or in the spring from 60 days prior to planting or transplanting up to 72 hours after transplant. Unless applying preplant incorporated, do not incorporate the product into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur.

If applying preemergence, applications before transplant can be broadcast or banded. Preemergence applications up to 72 hours after transplant should be a banded treatment in the row middles.

If applying this product preplant incorporated in the spring, prior to transplantation, mix thoroughly or shallowly incorporate the **ANTARES® HERBICIDE** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Moisture (in the form of rain or snow) after application will activate and move the product into the soil. To prevent runoff of **ANTARES® HERBICIDE** from snowmelt or rain, do not apply **ANTARES® HERBICIDE** to soils that are frozen or have an existing snow cover.

Tank Mixes

ANTARES® HERBICIDE can be split-applied or mixed with burndown herbicides or soil-applied herbicides labeled for use on cabbage to control emerged weeds or broaden the herbicide control spectrum. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of cabbage.

RESTRICTIONS:

- Do not apply more than 0.375 lbs. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application (including preplant fall application).
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Product is not to be incorporated any deeper than 2 inches.

CITRUS

(Crop Group 10: Australian desert lime; Australian finger-lime; Australian round lime; Brown River finger lime; calamondin; citron; citrus hybrids; grapefruit; Japanese summer grapefruit; kumquat; lemon; lime; Mediterranean mandarin; mount white lime; New Guinea wild lime; orange, sour; orange, sweet; pummelo; Russell River lime; satsuma mandarin; sweet lime; tachibana orange; Tahiti lime; tangelo; tangerine (mandarin); tangor; trifoliolate orange; unqi fruit; cultivars, varieties, and/or hybrids of these)

To control susceptible weeds, **ANTARES® HERBICIDE** can be applied broadcast to orchard floor or banded to the base of citrus trees.

See **Listed Weed Species** for information on weeds controlled or suppressed. **ANTARES® HERBICIDE** will control or suppress all weeds (including weeds and sedges designated as 'P' and undesignated weeds and sedges) indicated on weed list.

Application Rates

Broadcast (all soil types)

- Apply 4.0-12.0 fl. oz. (0.125-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

Make only 1 broadcast application in a 12 month period

Banded applications should be made to a 50% or less band, and can consist of 2 applications in a 12 month period (not to exceed 12.0 fl. oz. product (0.375 lb a.i.) per 12 month period)

To determine the appropriate banded application rate, use the following equation:

Band Rate or Volume	=	Broadcast Rate (fl. oz./acre) or Volume per acre	X	Band width (in inches)	÷	Row width (in inches)
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Application Instructions:

Apply the amount of **ANTARES® HERBICIDE** indicated above to the soil in a uniform broadcast application or a banded (50% or less band) application. Make application prior to emergence of weeds, or for postemergent control of weeds. Apply product in at least 10 gallons of finished spray per acre, and make sure that spray solution is in the pH range of 5.0-9.0. Apply with ground equipment only. When applying broadcast, make only 1 application per year. When applying banded (50% or less band), up to 2 applications per year can be made. Observe a 60 day retreatment interval between applications.

For sedge control, the 12 fl. oz. per acre application rate may provide control or suppression when applied to preemerged or postemergent sedge. Make sure that spray coverage is uniform. If applying to postemergent sedge, best results will be obtained if **ANTARES® HERBICIDE** is mixed with 0.25% (v/v) of a quality nonionic surfactant (NIC).

For purple nutsedge control, best results may be obtained by using a split application. Use 4.0-6.0 fl. oz. **ANTARES® HERBICIDE** per acre for the first application, then make a second application to actively growing purple nutsedge (make sure that the maximum yearly rate of 12.0 fl. oz. product per acre is not exceeded). Best control may be observed in the second year after initial **ANTARES® HERBICIDE** application. Look for reduced purple nutsedge stands, stunted growth, or weeds exhibiting necrosis or chlorosis.

For optimum results, apply to moist soil and clean orchards. If citrus orchards contain heavy crop or weed trash, removing trash will result in more effective weed control. At least ½ inch of sprinkler irrigation or rainfall within 14 days of application will result in best control. When moisture is delayed, weed control may be reduced. Consider use of a burndown herbicide to control weed escapes. Micro or drip irrigation may not consistently incorporate **ANTARES® HERBICIDE** into the soil, and in this case, cooler temperatures or application during periods when rainfall is expected can enhance control.

Make application only to citrus trees that have been established for a full growing season, and are healthy. Spray solution should not be allowed to contact green bark of young trees. Protect green bark from spray solution with a grow tube, wax container or nonporous wrap. Make sure that spray does not contact foliage or fruit, and when applying after petal fall, use a shielded or hooded sprayer.

Tank Mixes: For control of a broader spectrum of weeds or pests, **ANTARES® HERBICIDE** can be mixed with other pesticides registered for use on citrus. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

When applying to postemergent weeds, consider tank mixing with a burndown herbicide (such as those containing carfentrazone-ethyl, glyphosate, paraquat, glufosinate ammonium or 2,4-D).

Do not tank mix with products containing flumioxazin or sulfentrazone.

Important

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

- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of citrus.

RESTRICTIONS:

- Do not apply more than 0.375 lbs. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period.
- Pre-harvest interval (PHI) is 3 days.
- Do not make more than one **ANTARES® HERBICIDE** broadcast application for up to 2 banded applications or applications for purple nutsedge in a 12 month period. The 12 month period starts at the point of first application.
- Do not apply to soils that can be easily blown by wind (fine or powdery) unless irrigation can be applied immediately after application.
- Do not tank mix with products containing flumioxazin or sulfentrazone.
- Wait at least 30 days after an application of **ANTARES® HERBICIDE** to replanting / replacing citrus trees in established orchards. Use untreated soil for new plantings.
- If making two banded treatments, observe a 60 day retreatment interval between applications.
- Do not apply aerially or with an airstream sprayer.
- Do not make application to citrus trees that are younger than 1 year, or are not in good condition.
- Do not contact foliage or green bark with direct or indirect **ANTARES® HERBICIDE** spray. Use hooded or shielded sprayer and nonporous bark cover for protection.

DRY FIELD PEAS AND CHICKPEAS

To control susceptible weeds, **ANTARES® HERBICIDE** can be applied to dry field peas and chickpeas at the following times:

In the fall (Preplant), before spring growing season (only in CO, ID, KS, MI, MN, MT, NE, ND, OR, SD, WA, WI, WY).

In the spring (early preplant, preplant incorporated, preemergence)

When applying preplant to dry field peas and chickpeas, the product may be applied (only in CO, ID, KS, MI, MN, MT, NE, ND, OR, SD, WA, WI, WY).

When applied as indicated on this label, the following weeds in dry field peas and chickpeas will be controlled with **ANTARES® HERBICIDE**:

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

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25-3.0 fl. oz. (0.07-0.095 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.0-4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 3.75-6.0 fl. oz. (0.12-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0-4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.75-6.0 fl. oz. (0.12-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 4.5-6.75 fl. oz. (0.14-0.21 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0-4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 4.5-6.0 fl. oz. (0.14-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 5.25-8.0 fl. oz. (0.165-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium, or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above to stubble or to the soil surface, in the fall, or in the spring from 60 days prior to planting up to 3 days after planting (if seed furrow is completely closed and if seedlings have not broken the soil furrow).

When applying preplant fall applications, do not incorporate the product into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. Moisture (in the form of rain or snow) after application will activate and move the product into the soil. To prevent runoff of **ANTARES® HERBICIDE** from snowmelt or rain, do not apply **ANTARES® HERBICIDE** to soils that are frozen or have an existing snow cover.

When applying in the spring early preplant greater than three weeks prior to planting, use the higher rate listed in 'Application Rates' for appropriate soil and organic matter type. Wait a minimum of 7 days after application to plant in coarse textured soils with less than 1.5% organic matter. Moisture (in the form of rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed.

If applying this product preplant incorporated in the spring prior to planting reduced and conventional tillage dry peas, mix thoroughly or shallowly incorporate the **ANTARES® HERBICIDE** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Tank Mixes

ANTARES® HERBICIDE can be split-applied or mixed with burndown herbicides or soil-applied herbicides labeled for use on dry beans and peas to control emerged weeds or broaden the herbicide control spectrum. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Reduce rate of **ANTARES® HERBICIDE** on coarse textured soil with organic matter less than 1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize adverse crop response.

- Planting less than 1 inch in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.

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

- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of dry peas.

RESTRICTIONS:

- Do not apply more than 0.25 lbs. sulfentrazone (8.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application (including preplant fall application).
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Product is not to be incorporated any deeper than 2 inches.
- If seedlings are close to soil surface or crop has emerged, do not apply **ANTARES® HERBICIDE**.
- To prevent runoff of **ANTARES® HERBICIDE** from snowmelt or rain, do not apply **ANTARES® HERBICIDE** to soils that are frozen or have an existing snow cover.

FALLOW OR POST HARVEST BURNDOWN
Fall application (MN, ND, SD, MT, CO, NE, WY, ID, WA, OR, WI, MI)
Or Spring Preemerg application

To control or suppress susceptible weeds (including the weed list indicated below, and additional weeds indicated in the Weeds Controlled portion of this label, **ANTARES® HERBICIDE** can be applied at the following times:

In the Fall: after crop has been harvested
 In the spring before weeds have emerged.

- Fall applications can be made in the states of MN, ND, SD, MT, CO, NE, WY, ID, OR, WI or MI
- Spring application can be made to existing fallow fields of cabbage, dry shell peas and beans, horseradish, mint, potatoes, soybeans, succulent cowpeas and lima beans (TN Only), sugarcane, sunflowers, or tobacco

When applied as indicated on this label, **ANTARES® HERBICIDE** will control the following weeds:

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

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 3.0 to 3.75 fl. oz. (0.095-0.12 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.75 to 5.25 fl. oz. (0.12-0.165 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 4.5 to 6.0 fl. oz. (0.14-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 to 4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.75 to 6.0 fl. oz. (0.12-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 4.5 to 8.0 fl. oz. (0.14-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75 to 5.25 fl. oz. (0.12-0.165 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 4.5 to 6.75 fl. oz. (0.14-0.21 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 5.25 to 8.0 fl. oz. (0.165-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter Consult preceding information regarding **Coarse, Medium or Fine** soil categories. Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above to stubble or soil surface in the fall, or as a fallow treatment in the spring. Do not incorporate **ANTARES® HERBICIDE** into the soil.

Moisture (in the form of rain or snow) after application will move the product into the soil.

For maximum weed control, disturb the soil surface as little as possible after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. To prevent runoff of **ANTARES® HERBICIDE** from snowmelt or rain, do not apply **ANTARES® HERBICIDE** to soils that are frozen or have an existing snow cover.

If weed size is such that the weeds interfere with **ANTARES® HERBICIDE** getting to soil surface, a separate burndown herbicide should be used prior to application of **ANTARES® HERBICIDE**. Use higher listed application rates, or more than one application of a burndown herbicide, if necessary, to remove emerged weeds. If applying aerially, use higher listed spray volumes of burndown herbicide to control dense weeds or canopy.

Tank Mixes

ANTARES® HERBICIDE can be mixed with burndown herbicides or residual soil herbicides to control emerged weeds. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

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

- Follow rotational crop guidelines listed on this table when planting crops in the next season.

- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties of given crop species.

RESTRICTIONS:

- Do not apply more than 0.25 lbs. sulfentrazone (8.0 fl. oz. product) per 12 month period. If making a fall fallow application, the 12 month period starts at this point.

- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').

- To prevent runoff of **ANTARES® HERBICIDE** from snowmelt or rain, do not apply **ANTARES® HERBICIDE** to soils that are frozen or have an existing snow cover.

FLAX

To control susceptible weeds, **ANTARES® HERBICIDE** can be applied preemergence to flax.

When applied as indicated on this label, the following weeds in flax will be controlled with **ANTARES® HERBICIDE**:

Copperleaf, hophornbeam Kochia (ALS and Triazine Resistant) Morningglory (entireleaf, ivyleaf, tall)
Nightshade, Eastern black Pigweed (redroot, smooth)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25-3.0 fl. oz. (0.07-0.095 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.0-6.0 fl. oz. (0.095-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-9.0 fl. oz. (0.19-0.28 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0-4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 6.0-9.0 fl. oz. (0.19-0.28 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-12.0 fl. oz. (0.19-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0-6.0 fl. oz. (0.095-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, 6.0-9.0 fl. oz. (0.19-0.28 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-12.0 fl. oz. (0.19-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above as a preemergence treatment prior to planting up to just before seedling emergence. To avoid severe injury to flax, do not make application after seedlings have emerged.

For enhanced control of broadleaf and grass weeds, **ANTARES® HERBICIDE** application can be followed with a postemergence flax herbicide.

Tank Mixes

ANTARES® HERBICIDE can be applied alone or in combination with other herbicides labeled for use on flax to enhance control to broadleaf weeds and grasses. Tank mix **ANTARES® HERBICIDE** with burndown herbicides to control emerged weeds. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of flax.
- Planting less than 1 inch in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Reduced weed control can occur if crop is experiencing ex-tended periods of dry weather.

RESTRICTIONS:

- Do not apply more than 0.375 lbs. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Wait a minimum of 7 days after application to plant in coarse textured soils with less than 1.5% organic matter.
- Eliminate use or reduce rate of **ANTARES® HERBICIDE** to 3.0 oz./acre (0.94 lbs active) on coarse textured soil with organic matter less than 1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize adverse crop response.
- Product is not to be incorporated any deeper than 2 inches.
- To prevent runoff of **ANTARES® HERBICIDE** from snowmelt or rain, do not apply **ANTARES® HERBICIDE** to soils that are frozen or have an existing snow cover.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- If seedlings are close to soil surface or have emerged, do not apply **ANTARES® HERBICIDE** directly to crop.

GRAPES

(Wine, Raisin, Table and Juice Grapes; Amur River Grapes)

To control susceptible weeds, **ANTARES® HERBICIDE** can be applied broadcast to vineyard floor or banded to the base of grape vines.

See **Listed Weed Species** for information on weeds controlled or suppressed. **ANTARES® HERBICIDE** will control or suppress all weeds (including weeds and sedges designated as 'P' and undesignated weeds and sedges) indicated on weed list.

Application Rates

Broadcast (all soil types)

- Apply 4.0-12.0 fl. oz. (0.125-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

Make only 1 broadcast application in a 12 month period

Banded applications should be made to a 50% or less band, and can consist of 2 applications in a 12 month period (not to exceed 12.0 fl. oz. product (0.375 lb a.i.) per 12 month period)

To determine the appropriate banded application rate, use the following equation:

Band Rate or Volume	=	Broadcast Rate (fl. oz./acre) or Volume per acre	X	Band width (in inches)	÷	Row width (in inches)
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Application Instructions

Apply the amount of **ANTARES® HERBICIDE** indicated above to the soil in a uniform broadcast application or a banded (50% or less band) application. Make application prior to emergence of weeds, or for postemergent control of weeds. Apply product in at least 10 gallons of finished spray per acre, and make sure that spray solution is in the pH range of 5.0-9.0. Apply with ground equipment only. When applying broadcast, make only 1 application per year. When applying banded (50% or less band), up to 2 applications per year can be made. Observe a 60 day retreatment interval between applications.

For sedge control, the 12 fl. oz. per acre application rate may provide control or suppression when applied to preemergent or postemergent sedge. Make sure that spray coverage is uniform. If applying to postemergent sedge, best results will be obtained if **ANTARES® HERBICIDE** is mixed with 0.25% (v/v) of a quality nonionic surfactant (NIC).

For purple nutsedge control, best results may be obtained by using a split application. Use 4.0-6.0 fl. oz. **ANTARES® HERBICIDE** per acre for the first application, then make a second application to actively growing purple nutsedge (make sure that the maximum yearly rate of 12.0 fl. oz. product per acre is not exceeded). Best control may be observed in the second year after initial **ANTARES® HERBICIDE** application. Look for reduced purple nutsedge stands, stunted growth, or weeds exhibiting necrosis or chlorosis.

For optimum results, apply to moist soil and clean vineyards. If grape vineyards contain heavy crop or weed trash, removing trash will result in more effective weed control. At least ½ inch of sprinkler irrigation or rainfall within 14 days of application will result in best control. When moisture is delayed, weed control may be reduced. Consider use of a burndown herbicide to control weed escapes. Micro or drip irrigation may not consistently incorporate **ANTARES® HERBICIDE** into the soil, and in this case, cooler temperatures or application during periods when rainfall is expected can enhance control.

Make application only to grape vines that have been established for a full growing season, and are healthy. Spray solution should not be allowed to contact green bark of young vines. Protect green bark from spray solution with a grow tube, wax container or nonporous wrap. Make sure that spray does not contact foliage or fruit, and when applying after petal fall, use a shielded or hooded sprayer.

Tank Mixes

For control of a broader spectrum of weeds or pests, **ANTARES® HERBICIDE** can be mixed with other pesticides registered for use on grapes. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

When applying to postemergent weeds, consider tank mixing with a burndown herbicide (such as those containing carfentrazone-ethyl, glyphosate, paraquat, glufosinate ammonium or 2,4-D).

Do not tank mix with products containing flumioxazin or sulfentrazone.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of grapes.

RESTRICTIONS:

- Do not apply more than 0.375 lbs. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period.
- Pre-harvest interval (PHI) is 3 days.
- Do not make more than one **ANTARES® HERBICIDE** broadcast application for up to 2 banded applications or applications for purple nutsedge in a 12 month period. The 12 month period starts at the point of first application.
- Do not apply to soils that can be easily blown by wind (fine or powdery) unless irrigation can be applied immediately after application.
- Do not tank mix with products containing flumioxazin or sulfentrazone.
- Wait at least 30 days after an application of **ANTARES® HERBICIDE** to replanting / replacing grapevines in established vineyards. Use untreated soil for new plantings.
- If making two banded treatments, observe a 60 day retreatment interval between applications.
- Do not apply aerially or with an airstream sprayer.
- Do not make application to grape vines that are younger than 1 year, or are not in good condition.
- Do not contact foliage or green bark with direct or indirect **ANTARES® HERBICIDE** spray. Use hooded or shielded sprayer and nonporous bark cover for protection.

HORSERADISH

To control susceptible weeds, **ANTARES® HERBICIDE** can be applied to horseradish at the following times:

In the fall (preplant), before spring growing season

In the spring (early preplant, preplant incorporated, preemergence)

When applying early preplant to horseradish, the product may be applied only in CO, ID, MI, MN, MT, NE, ND, OR, SD, WA, WI, WY.

When applied as indicated on this label, the following weeds in horseradish will be controlled with **ANTARES® HERBICIDE**:

Lambsquarters, common	Morningglory, ivyleaf	Nutsedge, yellow
Pigweed, red root	Waterhemp (common, tall)	

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25-4.5 fl. oz. (0.07-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 4.5-6.0 fl. oz. (0.14-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-7.5 fl. oz. (0.19-0.233 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium or Fine Textured Soils

- Less than 1.5% OM, apply 3.0-4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 6.0-8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above to stubble or to the soil surface. Unless applying preplant incorporated, do not incorporate the product into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur.

If applying preplant in the spring, product can be applied 60 days prior to planting up to planting.

If applying preemergence, applications before planting, and up to 5 days before crop emergence can be broadcast or banded. After crop emergence, **ANTARES® HERBICIDE** can be applied to row middles as a banded treatment. If soil has more than 1% organic matter or is clay, higher rates of **ANTARES® HERBICIDE** should be used.

If applying this product preplant incorporated in the spring, prior to planting, mix thoroughly or shallowly incorporate the **ANTARES® HERBICIDE** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches. Moisture (in the form of rain or snow) after application will activate and move the product into the soil. To prevent runoff of **ANTARES® HERBICIDE** from snowmelt or rain, do not apply **ANTARES® HERBICIDE** to soils that are frozen or have an existing snow cover.

Tank Mixes

ANTARES® HERBICIDE can be split-applied or mixed with burndown herbicides, residual soil herbicides or other pesticides labeled for use on horseradish to control emerged weeds or broaden the pesticide control spectrum. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

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

- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of horseradish.

RESTRICTIONS:

- Do not apply more than 0.25 lbs. sulfentrazone (8.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application (including preplant fall application).
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Product is not to be incorporated any deeper than 2 inches.
- If seedlings are close to soil surface or have emerged, do not apply **ANTARES® HERBICIDE** directly to the crop (apply a banded treatment to row middles)

MINT

To control susceptible weeds, **ANTARES® HERBICIDE** can be applied to established stands of dormant mint or to newly planted mint, prior to emergence of new growth.

When applied as indicated on this label, the following weeds in mint will be controlled with **ANTARES® HERBICIDE**:

Amaranth, Powell	Bedstraw, catchweed	Chamomile, mayweed	Kochia (ALS and Triazine resistant)
Lambsquarters, common	Morningglory, ivyleaf	Nightshade, Eastern black	Nutsedge, yellow
Pigweed, redroot	Shepherdspurse	Toadflax, yellow	Thistle, Russian
Waterhemp (common, tall)			

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 4.5-6.0 fl. oz. (0.14-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 6.0-8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 8.0-10.1 fl. oz. (0.25-0.316 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 6.0-8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 8.0-10.1 fl. oz. (0.25-0.316 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 10.1-12.0 fl. oz. (0.316-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 8.0 fl. oz. (0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, 10.1 fl. oz. (0.316 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 12.0 fl. oz. (0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above can be applied to dormant mint in the fall or spring, or preemergence to new mint plantings.

Dormant Applications: Application can be made to established stands of mint in the spring (after spring cultivation has been completed) or in the fall (after post-harvest cultivation has been completed), prior to emergence of new growth. Split applications of **ANTARES® HERBICIDE** can be used for preemergence control of winter and spring annual weeds

New Planting Applications: When applying to new mint plantings, reduce rate of application by 25% of the rate listed for established plantings. Apply product preemergence to both weeds and mint.

Tank Mixes

ANTARES® HERBICIDE can be mixed with burndown herbicides labeled for use on mint to control emerged weeds. Enhanced control of emerged weeds can be obtained by also adding a surfactant to the tank mix.

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

Important

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

- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of mint.

- Application to mint fields under stress (environmental, cultural, pests, disease) may result in crop injury. Apply to healthy mint fields only.

- To activate herbicide and move product into the soil, moisture (in the form of rain or overhead irrigation) is required after application.

RESTRICTIONS:

- Do not apply more than 0.375 lbs. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Do not apply **ANTARES® HERBICIDE** to mint plantings once new growth has emerged, to avoid severe injury to plant tissue.

POTATOES

To control undesirable weeds and grasses in potato production, **ANTARES® HERBICIDE** can be applied preemergence to potatoes.

When applied as indicated on this label, the following weeds in potatoes will be controlled with **ANTARES® HERBICIDE**:

Amaranth, Palmer	Filaree, redstem	Kochia (ALS and Triazine resistant)
Lambsquarters, common	Morningglory (vyleaf, tall)	Nightshade, Eastern Black
Pigweed, redroot or smooth	Thistle, Russian	Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Up to 3.0% OM, apply 3.0 to 4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 4.5 to 6.0 fl. oz. (0.14-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 to 4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.75 to 6.0 fl. oz. (0.12-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 5.25 to 6.75 fl. oz. (0.165-0.21 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75 to 5.25 fl. oz. (0.12-0.165 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 4.5 to 6.0 fl. oz. (0.14-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0 to 8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above by aerial or ground application to potatoes as a preemergence treatment. Treatment should be made to the soil surface before potatoes emerge, but after planting and dragoff. Undesirable crop response can occur if **ANTARES® HERBICIDE** is applied after potatoes have emerged. Mix **ANTARES® HERBICIDE** in water to make a minimum of 5 gallons of spray solution for aerial application or 10 gallons of spray solution for ground application.

For best results, moisture (rain or irrigation) should occur after application to move the product into the soil. If dry conditions persist within 7 days of application, **ANTARES® HERBICIDE** can be incorporated to a depth of no more than 2 inches, to activate the product.

Chemigation Applications

ANTARES® HERBICIDE can also be applied preemergence by chemigation, using enough water for soil surface coverage, but not to runoff (0.25 to 0.5 inch per acre). **ANTARES® HERBICIDE** can be applied prior to potato emergence through solid set, lateral move, end tow, hand move or center pivot sprinkler irrigation systems.

pH considerations

- An undesirable crop response can result from irrigation with alkaline water of pH 7.5 or greater.
- Following a **ANTARES® HERBICIDE** soil application, the amount of available sulfentrazone in the soil can be significantly increased by irrigation with highly alkaline water (high pH).
- Younger or more stressed crops, or crops subjected to higher rates of **ANTARES® HERBICIDE** are more susceptible to adverse effects from higher pH irrigation water. As potato growth stage progresses, risks of undesirable crop response is minimized.

Tank Mixes

ANTARES® HERBICIDE can be mixed with other soil applied herbicides to improve performance or for use on weeds not controlled by sulfentrazone. **ANTARES® HERBICIDE** can be mixed with burndown herbicides and adjuvants labeled for use on potatoes to control emerged weeds. During chemigation, **ANTARES® HERBICIDE** can be applied with other properly labeled products used for chemigation in potatoes. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of potatoes.
- Certain potato varieties can exhibit sensitivity to **ANTARES® HERBICIDE** on marginal coarse soil. Crop tolerance of untested potato varieties should be tested prior to planting.

RESTRICTIONS:

- Do not apply more than 0.25lbs. sulfentrazone (8.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- To avoid undesirable crop response, do not apply to emerged potatoes.

SOYBEANS

To control susceptible weeds in soybeans, **ANTARES® HERBICIDE** can be applied to soybeans in the spring (preemergence or preplant incorporated). **ANTARES® HERBICIDE** can also be applied in the fall, before spring planting of soybeans.

When applied as indicated on this label, the following weeds in soybeans will be controlled with **ANTARES® HERBICIDE**:

Amaranth, Palmer	Copperleaf, hophornbeam	Kochia (ALS and Triazine resistant)	Lambsquarters, common
Morningglory, spp.	Nightshade	Pigweed, spp.	Prickly sida
Russian Thistle	Waterhemp, spp.		

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 4.5 to 6.0 fl. oz. (0.14-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0 % OM, apply 6.0 to 8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 8.0 to 10.1 fl. oz. (0.25-0.316 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 6.0 to 8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 8.0 to 10.1 fl. oz. (0.25-0.316 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 10.1 to 12.0 fl. oz. (0.316-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 8.0 fl. oz. (0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 10.1 fl. oz. (0.316 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 12.0 fl. oz. (0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above to the soil surface in the spring, preplant incorporated or preemergence, up to 3 days after planting (applications more than 3 days after planting can result in injury, if seeds are germinating) in conventional, conservation, reduced or no-tillage cropping systems. If seedlings are close to soil surface or have emerged, do not apply **ANTARES® HERBICIDE**.

The listed amount of **ANTARES® HERBICIDE** can also be applied in the fall in conservation and no-tillage cropping systems for burndown of existing crop stubble and weeds and for preemergence control of weeds. For optimum results, fall applications should be a part of weed control programs that include spring herbicide applications the following crop season, as needed. Apply in the fall when soil temperature is sustained at 55 °F down to a depth of 4 inches. If using a ridge till production system, form ridges or beds prior to **ANTARES® HERBICIDE** application.

Observe the following date restrictions:

Areas north of Interstate 90 – Apply after September 30

Areas north of Interstate 70 – Apply after October 15

Areas south of Interstate 70 – Do not make fall application

ANTARES® HERBICIDE can be applied by ground or aerial application. Mix **ANTARES® HERBICIDE** in water to make a minimum of 5 gallons of spray solution for aerial application or 10 gallons of spray solution for ground application. Be sure to use enough spray volume for acceptable soil coverage. Spray must be applied with nozzles that produce a minimum amount of fine droplets, but also generate optimum soil coverage.

If applying the product preplant incorporated, in the spring, mix thoroughly and shallowly incorporate the **ANTARES® HERBICIDE** into the soil. Inconsistent weed control can result if product is not uniformly incorporated, or incorporated deeper than the maximum incorporation depth of 2 inches.

Important

- Adverse or poor growing conditions (disease, cool weather, pH of 7.5 and above, prolonged and excessive moisture, poor agronomic practices) can cause undesirable crop response (such as discoloration or stunting). Normal growing conditions will lessen and diminish these effects.
- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of soybean.

RESTRICTIONS:

- Do not apply more than 0.375 lbs. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. If making a preplant fall application, the 12 month period starts at this point.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- To prevent runoff of **ANTARES® HERBICIDE** from snowmelt or rain, do not apply **ANTARES® HERBICIDE** to soils that are frozen or have an existing snow cover.
- Do not apply after soybean seed has germinated.

(continued)

SOYBEANS (continued)

Tank Mixes

ANTARES® HERBICIDE can be mixed with a burndown herbicide to control emerged weeds. For adequate weed coverage when applying in the fall, mix products with water to make a minimum of 20 gallons of finished spray per acre. If weeds are emerged, adjuvants (such as COC or MSO) can be added to the mix for enhanced burndown activity.

For enhanced control of grasses and broadleaf weeds in the spring, **ANTARES® HERBICIDE** can be tank mixed with or followed by an application of a postemergence soybean herbicide. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

STRAWBERRY

To control susceptible weeds, **ANTARES® HERBICIDE** can be applied preemergence to strawberries.

When applied as indicated on this label, the following weeds in strawberry will be controlled with **ANTARES® HERBICIDE**:

Corn Spurry	Field Pansy	Groundsel, common	Ladysthumb
Lambsquarters, common	Mayweed	Morningglory, ivyleaf	Nutsedge, yellow
Pigweed, redroot	Pineapple weed	Prostrate knotweed	Shepherdspurse
Waterhemp (common, tall)	White Camion	Wild buckwheat	Yellow nutsedge
Yellow woodsorrel			

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25-3.0 fl. oz. (0.07-0.095 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.0-6.0 fl. oz. (0.095-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-9.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0-4.5 (0.095-0.14 lb a.i.) fl. oz. **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 6.0-9.0 fl. oz. (0.19-0.28 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-12.0 fl. oz. (0.19-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0-6.0 fl. oz. (.095-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 6.0-9.0 fl. oz. (0.19-0.28 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-12.0 fl. oz. (0.19-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse**, **Medium** or **Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above as a preemergence treatment prior to planting up to just before seedling emergence. To avoid severe injury to strawberry crop, do not make application after seedlings have emerged.

For enhanced control of broadleaf and grass weeds, **ANTARES® HERBICIDE** application can be followed with a postemergence melon herbicide.

Tank Mixes

ANTARES® HERBICIDE can be split-applied or mixed with other herbicides labeled for use on strawberries to enhance control to broadleaf weeds and grasses. Tank mix **ANTARES® HERBICIDE** with burndown herbicides to control emerged weeds. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of strawberries.

RESTRICTIONS:

- Do not apply more than 8 fl. oz./ (0.25 lb.) per acre per application, or 0.375 lbs. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- If seedlings are close to soil surface or have emerged, do not apply **ANTARES® HERBICIDE** directly to crop.

SUCCULENT COWPEAS AND LIMA BEANS (TENNESSEE ONLY)

To control susceptible weeds, **ANTARES® HERBICIDE** can be applied preemergence to succulent cowpeas and lima beans (TN only).

When applied as indicated on this label, the following weeds in lima beans will be controlled with **ANTARES® HERBICIDE**:

Copperleaf, hophornbeam Morningglory (entireleaf, ivyleaf)
Pigweed (redroot, smooth)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25-3.75 fl. oz. (0.07-0.12 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.0-4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 3.75-6.0 fl. oz. (0.12-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0-6.0 fl. oz. (0.095-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.75-6.0 fl. oz. (0.12-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 4.5-6.0 fl. oz. (0.14-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75-6.0 fl. oz. (0.12-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 4.5-6.0 fl. oz. (0.14-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 5.25-6.0 fl. oz. (0.165-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above as a preemergence treatment. Apply product in at least 10 gallons of finished spray per acre. Make application with ground equipment.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of cowpeas and lima beans.
- Reduce rate of **ANTARES® HERBICIDE** on coarse textured soil with organic matter <1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize adverse crop response.
- Planting less than 1 inch in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Reduced weed control can occur if crop is experiencing extended periods of dry weather.

RESTRICTIONS:

- Do not apply more than 0.1875 lbs. sulfentrazone (6.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Wait a minimum of 7 days after application to plant in coarse textured soils with less than 1.5% organic matter.
- Do not incorporate **ANTARES® HERBICIDE** into the soil when using product on cowpeas or lima beans (TN).

SUGARCANE

To control susceptible broadleaves, grasses and sedges in sugarcane, **ANTARES® HERBICIDE** can be applied to sugarcane at the following times: Preemergent (newly planted) –broadcast or banded; aerial or ground application

Layby – directed spray; ground application

When applied as indicated in this label, the following weeds in sugarcane will be controlled with **ANTARES® HERBICIDE**:

Morningglory (entireleaf, ivyleaf, red or tall) Pigweed, red root Nutsedge, yellow

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 4.5 – 6.0 fl. oz. (0.14-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 6.0 – 8.3 fl. oz. (0.19-0.26 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 8.0 – 10.1 fl. oz. (0.25-0.316 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 6.0-8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 8.0-10.1 fl. oz. (0.25-0.316 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 10.1-12.0 fl. oz. (0.316-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 8.0 fl. oz. (0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 10.1 fl. oz. (0.316 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 12.0 fl. oz. (0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above to ratoon or newly planted sugarcane (preemergent) or to sugarcane at lay-by timing (directed spray).

ANTARES® HERBICIDE can be applied aerially (for preemergent application), in a minimum of 5 gallons of spray per acre or by ground equipment (preemergent application or lay-by application), in a minimum of 15 gallons of spray per acre.

For all applications, use the higher rate on soils with organic matter content higher than 2% or on clay soils.

Tank Mixes

ANTARES® HERBICIDE can be applied with other herbicides or insecticides registered for use in sugarcane. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

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

- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of sugarcane.

RESTRICTIONS:

- Pre-harvest interval is 120 days.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Do not apply more than 0.375 lbs. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Do not contact crop leaves with **ANTARES® HERBICIDE**.

SUNFLOWER SUBGROUP 20B

(Including: Calendula, Castor oil Plant, Chinese tallowtree, Euphorbia, Evening primrose, Jojoba, Niger seed, Rose hip, Safflower, Stokes aster, Sunflower, Tallowwood, Tea oil plant, Vernonia; Cultivars, varieties and/or hybrids of these)

To control or suppress weeds in listed crops, **ANTARES® HERBICIDE** can be applied at the following times:
In the Fall (Preplant), before spring planting (Fall applications allowed only in ND, SD, MT, MN, WY, CO, NE, KS).
In the Spring (Early Preplant, Preemergence, Preplant Incorporated), prior to planting up to three days after planting.

When applied as indicated on this label, the following weeds in listed crops will be controlled with **ANTARES® HERBICIDE**.

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

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 3.0-3.75 fl. oz. (0.095-0.12 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.0-4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 3.75-6.0 fl. oz. (0.12-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0-4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.75-6.0 fl. oz. (0.12-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 4.5-6.75 fl. oz. (0.14-0.21 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75-5.25 fl. oz. (0.12-0.165 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 4.5-6.75 fl. oz. (0.14-0.21 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above to stubble or to the soil surface preplant in the fall (fall use only in ND, SD, MT, MN, WY, CO, NE or KS), or early preplant, preemergence or preplant incorporated in the spring prior to planting up to three days after planting (if seed furrow is closed completely and seedlings have not broken the soil surface). For applications in the fall, use a mid to high rate range for your soil type and for applications in the spring greater than three weeks prior to planting, use a high rate range for your soil type, because of the extended time period between application and planting. Plant a minimum of 7 days after application if soil is coarse textured and contains less than 1.5% organic matter.

If applying this product preplant incorporated in the spring, to reduced or conventional tillage crops, mix thoroughly or shallowly incorporate the **ANTARES® HERBICIDE** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Moisture (in the form of rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed.

For maximum weed control, disturb the soil surface as little as possible after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. To prevent runoff of **ANTARES® HERBICIDE** from snowmelt or rain, do not apply **ANTARES® HERBICIDE** to soils that are frozen or have an existing snow cover.

Tank Mixes

ANTARES® HERBICIDE can be tank mixed or split-applied with burndown herbicides such as paraquat or glyphosate at their full labeled rate to control emerged weeds. **ANTARES® HERBICIDE** can be tank mixed with other herbicides labeled for use on listed crops to enhance weed control and suppression. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Reduce rate of **ANTARES® HERBICIDE** on coarse textured soil with organic matter less than 1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize adverse crop response.
- Planting less than 1 inch in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of listed crops.

RESTRICTIONS:

- Do not apply more than 0.25 lbs. sulfentrazone (8.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- To prevent runoff of **ANTARES® HERBICIDE** from snowmelt or rain, do not apply **ANTARES® HERBICIDE** to soils that are frozen or have an existing snow cover.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand')
- Product is not to be incorporated any deeper than 2 inches

TOBACCO (Burley, Flue-Cured and Dark)

ANTARES® HERBICIDE can be applied preemergence or preplant incorporated to tobacco transplants, for control of susceptible weeds.

When applied as indicated on this label, the following weeds in tobacco will be controlled with **ANTARES® HERBICIDE**:

Amaranthus, livid	Filaree, redstem	Galinsoga, hairy
Lambsquarters, common	Morningglory (ivyleaf, tall)	Pigweed (redroot, smooth)
Sida, prickly	Signalgrass, broadleaf	Smartweed, Pennsylvania

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 4.5-6.0 fl. oz. (0.14-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 6.0-8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 8.0-10.1 fl. oz. (0.25-0.316 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 6.0-8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 8.0-10.1 fl. oz. (0.25-0.316 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 10.1-12.0 fl. oz. (0.316-0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 8.0 fl. oz. (0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 10.1 fl. oz. (0.316 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 12.0 fl. oz. (0.375 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Amount of **ANTARES® HERBICIDE** indicated above can be broadcast applied to the soil surface preplant or preplant incorporated, in a minimum of 10 gallons of finished product per acre, from 14 days to 12 hours before transplanting tobacco.

If applying the product preplant incorporated, shallowly incorporate the **ANTARES® HERBICIDE** into the soil. Inconsistent weed control can result if product is not uniformly incorporated, or incorporated deeper than the maximum incorporation depth of 2 inches.

When applying on Non-Bedded Fields (i.e., raised beds not formed prior to transplanting) and **ANTARES® HERBICIDE** is surface applied – use light finishing equipment to remove equipment tracks from the field after application, and do not disturb the soil to a depth greater than 2 inches. Reduced or unacceptable weed control could occur in the drill if pre-transplant surface applications are not followed by timely cultivations.

When applying to Bedded Fields (i.e. raised beds formed prior to transplanting), any dragging or knocking down of beds prior to transplanting must occur prior to **ANTARES® HERBICIDE** application. **ANTARES® HERBICIDE** can concentrate in the bed if the product is not mixed thoroughly and uniformly into the soil, or incorporated deeper than the maximum incorporation depth of 2 inches.

New tobacco transplants can be replanted if the first transplant does not produce a uniform stand.

If replanting:

- Do not re-treat fields with a second application of **ANTARES® HERBICIDE** or any other sulfentrazone product.
- Do not reform beds prior to replanting; plant new transplants into existing beds that have already been treated with **ANTARES® HERBICIDE**.

Tank Mixes

ANTARES® HERBICIDE can be mixed with a grass herbicide (or grass herbicide can be applied separately), to give optimum broad spectrum grass weed control. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Adverse or poor growing conditions (disease, cold weather, unfavorable pH soils, excessive moisture or drought, poor agronomic practices or other unfavorable conditions) can cause undesirable crop response in tobacco transplants, particularly if they are weakened and are in conditions of compacted or saturated soil or poor drainage. Normal growing conditions will lessen and diminish these effects.
- If transplants are set too shallowly, if heavy rainfall occurs after transplant, temporary stunting of transplants can occur.
- Observe responsible transplanting practices to avoid exposure (i.e., washing or crusting over) of transplants to treated soil. Necrosis (typically localized and inconsequential) can be caused if treated soil is splashed onto tobacco leaves.
- Mix thoroughly and uniformly and do not incorporate product deeper than the maximum incorporation depth of 2 inches to avoid inconsistent weed control or concentrating **ANTARES® HERBICIDE** into the soil (which can result in crop injury). Additionally, do not perform other tillage practices that could concentrate **ANTARES® HERBICIDE** into the soil.
- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of tobacco, and for agronomic recommendations for local conditions and specific tobacco varieties.

RESTRICTIONS:

- Pre-harvest interval is 14 days.
- Do not apply **ANTARES® HERBICIDE** to shade grown tobacco, tobacco seedling beds or tobacco in greenhouses.
- To avoid unacceptable injury, do not apply **ANTARES® HERBICIDE** post transplant.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Do not apply more than 0.375 lbs. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.

TOMATO (Transplanted only)

To control susceptible weeds, **ANTARES® HERBICIDE** can be applied to tomato (transplanted only) at the following times: Preemergence, prior to transplant.

When applied as indicated on this label, the following weeds in cabbage will be controlled with **ANTARES® HERBICIDE**:

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

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25-3.0 fl. oz. (0.07-0.095 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 3.0-6.0 fl. oz. (0.095-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 6.0-8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0-4.5 fl. oz. (0.095-0.14 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 6.0 fl. oz. (0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 8.0 fl. oz. (0.25 lb a.i.) **ANTARES® HERBICIDE** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0-6.0 fl. oz. (0.095-0.19 lb a.i.) **ANTARES® HERBICIDE** per acre
- 1.5% to 3.0% OM, apply 6.0-8.0 fl. oz. (0.19-0.25 lb a.i.) **ANTARES® HERBICIDE** per acre
- Greater than 3.0% OM, apply 8.0 fl. oz. (0.25 lb a.i.) **ANTARES® HERBICIDE** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium** or **Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **ANTARES® HERBICIDE** rates with lower soil pH rates (7.0 and lower) and lower **ANTARES® HERBICIDE** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **ANTARES® HERBICIDE** indicated above as a banded or broadcast treatment on tomato (transplanted only). Make application before tomato is transplanted.

Important

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

- Consult with university or extension weed management specialists for information on using **ANTARES® HERBICIDE** with specific local varieties or cultivars of tomato.

RESTRICTIONS:

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

- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed. Store in a cool, dry place and avoid excess heat.

PESTICIDE DISPOSAL: Waste resulting from the use of this product may be disposed of at an approved waste disposal facility.

CONTAINER HANDLING: Nonrefillable container.

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.

CONTAINER HANDLING: Refillable container.

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

Steps to be taken in case material is released or spilled:

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

LIMITATION OF WARRANTY AND LIABILITY

IMPORTANT: READ BEFORE USE. Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of Helena Chemical Company. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, Helena Chemical Company makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond statements on this label.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, neither Helena Chemical Company, the manufacturer, nor the Seller shall be liable for any indirect, special, incidental or consequential damages resulting from the use, handling, application, storage, or disposal of this product. To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use, handling, application, or storage of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid.

ANTARES is a registered trademark of Helena Holding Company.

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NET CONTENTS: 2.5 GALLONS (9.46 L)

GROUP 14 HERBICIDE

ANTARES

HERBICIDE

ACTIVE INGREDIENT:

Sulfentrazone 39.6%

OTHER INGREDIENTS: 60.4%

TOTAL: 100.0%

Contains 4 pounds of active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

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

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Notice: Read this entire label. Use only according to label directions. Before using this product, read Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.

Shake Well Before Using

In case of emergency endangering health or the environment involving this product, call Chemtrec at 1-800-424-9300.

Agricultural Chemical. Do not ship or store with food, feed, drugs or clothing.

FIRST AID

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice. **IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a Poison Control Center or doctor for treatment advice. **IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes. Then continue rinsing eye. Call a Poison Control Center or doctor for treatment advice. **IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. 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 **Chemtrec at 1-800-424-9300** for emergency medical information.

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

PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals

Caution

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.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Applicators must not exceed labeled rates of this product. Refer to specific crop directions for use for maximum use rates. Calculate the 12 month period for the purpose of maximum use rates from when **ANTARES HERBICIDE** is first applied.

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

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed. Store in a cool, dry place and avoid excess heat.

PESTICIDE DISPOSAL: Waste resulting from the use of this product may be disposed of at an approved waste disposal facility.

CONTAINER HANDLING: Nonrefillable container.

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 rinse into application equipment or a mix tank or store rinse 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 rinse into application equipment or a mix tank or store rinse 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.

CONTAINER HANDLING: Refillable container.

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 rinse into application equipment or rinse collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

SEE INSIDE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND COMPLETE DIRECTIONS FOR USE.

AD 071117

EPA Reg. No. 82534-5-5905

EPA Est. No. 70815-GA-002

Manufactured For
HELENA CHEMICAL COMPANY
225 SCHILLING BOULEVARD, SUITE 300
COLLIERVILLE, TENNESSEE 38017

PEEL BACK BOOK HERE AND RESEAL AFTER OPENING

PF 120833-2