



U.S. ENVIRONMENTAL PROTECTION AGENCY
 Office of Pesticide Programs
 Registration Division (7505P)
 1200 Pennsylvania Ave., N.W.
 Washington, D.C. 20460

EPA Reg. Number:

93930-26

Date of Issuance:

9/23/20

NOTICE OF PESTICIDE:

Registration
 Reregistration
 (under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

Avalaire MESO 4 SC

Name and Address of Registrant (include ZIP Code):

Avalaire, LLC
 1204 Village Market Place, #173
 Morrisville, NC 27560

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

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

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

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

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

Signature of Approving Official:

Jordan Page, Acting Product Manager 24
 Fungicide Herbicide Branch, Registration Division (7505P)

Date:

9/23/20

2. Make the following label changes before you release the product for shipment:
 - Revise the EPA Registration Number to read, “EPA Reg. No. 93930-26.”
3. Submit one copy of the revised final printed label for the record before you release the product for shipment.

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

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 04/30/2020

If you have any questions, please contact Manjula Unnikrishnan by phone at 703-347-8520, or via email at Unnikrishnan.manjula@epa.gov

Enclosure

[Note to reviewer: [Text] in brackets denotes optional text.]

MESOTRIONE GROUP 27 HERBICIDE

[Sublabel A (Pages 1-20) AVALAIRE MESO 4 SC:] Controls annual

broadleaf weeds in Soybean, Corn (field, seed, yellow pop, sweet), and other listed crops

[Sublabel B (Pages 21-28) ABN: AVALAIRE MESO 4 SC:] Provides selective and residual control of weeds in

Ornamental Turfgrasses

AVALAIRE MESO 4 SC^[TM]

[Alternate Brand Name: BeQuest 4 SC]

ACTIVE INGREDIENT: (% by weight)

Mesotrione: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione 40.0%

OTHER INGREDIENTS: 60.0%

TOTAL: 100.0%

Contains 4 lbs. Mesotrione per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

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

See inside label booklet for additional Precautionary Statements and Directions for Use.

FIRST AID	
If on skin:	<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.
HOT LINE 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 SafetyCall at 1-844-685-9173 for emergency medical treatment information.	

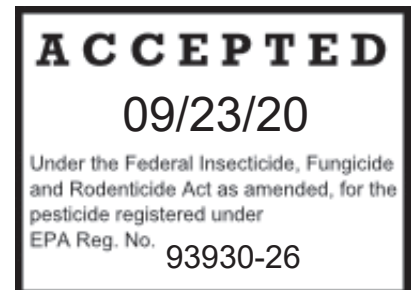
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)

EPA Reg. No.: 93930-XX

EPA Est. No.: _____

Net Contents: _____

Manufactured for:
Avalaire, LLC
1204 Village Market Place, #173
Morrisville, NC 27560



PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals
CAUTION

Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protection Equipment (PPE)

Applicators and Other Handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove and wash contaminated clothing before reuse.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Engineering Control Statements

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Environmental Hazards

Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

Surface Water Advisory

This product may contaminate water through drift or spray in wind. This product has a high potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

Physical and Chemical Hazards

Do not use or store near heat or open flame. Do not use with or store near any oxidizing or reducing agents. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

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

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

AGRICULTURAL USE REQUIREMENTS

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is:

- Coveralls over long-sleeved shirt and long pants
- shoes plus socks
- chemical-resistant gloves

PRODUCT INFORMATION

AVALAIRE MESO 4 SC is a systemic pre-emergence and post-emergence herbicide for selective contact and residual control of broadleaf weeds in labeled crops. In pre-emergence applications, weeds take up the product through the soil during weed emergence. Dry weather conditions reduce pre-emergent effectiveness of **AVALAIRE MESO 4 SC**. At least ¼-inch of rainfall must occur within 7-10 days of application; rotary hoeing activates **AVALAIRE MESO 4 SC**. In post-emergence applications, vulnerable weeds take up the product through treated foliage and stop growing soon after application. It can take up to two weeks for weeds to die. **AVALAIRE MESO 4 SC** is absorbed by soil and/or through foliage of emerged weeds.

AVALAIRE MESO 4 SC does not control most species of grass weeds. **AVALAIRE MESO 4 SC** can be tank-mixed with other herbicides registered to control grass weeds (see tank-mix information in this label for additional information). **AVALAIRE MESO 4 SC** can be used in combination with a burndown herbicide prior to planting to provide weed control in field corn, seed corn, yellow popcorn, and sweet corn. 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 a precautionary statement for each product in the tank mixture.

RESISTANCE MANAGEMENT FOR AVALAIRE MESO 4 SC (GROUP 27 HERBICIDE)

The efficacy of **AVALAIRE MESO 4 SC** is not affected by the presence of biotype weed species that are resistant to Protoporphyrinogen Oxidase (PPO), 4-Hydroxyphenylpyruvate Dioxygenase (HPPD) or Acetolactate Synthase (ALS) inhibiting herbicides or to Triazine or Glyphosate herbicides.

To reduce the risk of weeds developing resistance to mesotrione in corn, always use full specified label rates. When applying **AVALAIRE MESO 4 SC** post-emergence after a mesotrione-containing pre-emergence herbicide, add atrazine as a tank mix partner. **DO NOT** apply more than 0.24 lb. of mesotrione active ingredient per acre of corn per year (equivalent to 7.7 fl. oz. (0.24 lb. AI) per acre per year of **AVALAIRE MESO 4 SC**). If additional herbicide is needed, use an herbicide product other than a HPPD inhibitor (Group 27 Herbicide). Use specified label rates of **AVALAIRE MESO 4 SC** to prevent selection for, or population shifts toward, marginally resistant weed species and/or species biotypes.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

To minimize the occurrence of resistant biotypes, observe the following weed management practices:

- Scout application site before and after herbicide applications.
- Start with a clean application site, using either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small.
- Add other herbicides (e.g. a selective and/or a residual herbicide) and cultural practices (e.g. tillage or crop rotation) where appropriate.

- Utilize the specified label rate for the most difficult to control weed in your field. Avoid tank mixtures with other herbicides that reduce this product's efficacy (through antagonism), or tank mixture directions that encourage application rates of this product below the label directions.
- Control weed escapes and prevent weeds from setting seeds.
- Clean equipment before moving from field to field to minimize the spread of weed seed or plant parts.
- Report any incidence of repeated non-performance of this product on a particular weed to local extension specialists, certified crop advisors, or your Avalaire, LLC representative.
- Contact your local sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of actions for each target weed.

INTEGRATED WEED PEST MANAGEMENT

Integrate **AVALAIRE MESO 4 SC** into an overall weed pest management strategy whenever the use of an herbicide is required. Practices known to reduce weed development (tillage, crop competition) and herbicide use (weed scouting, proper application timing, banding) should be followed wherever possible. Consult local agricultural and weed authorities for additional IPM strategies established for your area.

USE PRECAUTIONS - AVALAIRE MESO 4 SC

Severe corn injury and/or yield loss can occur:

- From post-emergent application of **AVALAIRE MESO 4 SC** to corn treated with Terbufos or Chlorpyrifos.
- If foliar post-emergent applications of **AVALAIRE MESO 4 SC** are made to corn in a tank mix with any organophosphate or carbamate insecticide.
- If an organophosphate or carbamate insecticide is applied foliar post-emergence within 7 days before or 7 days after **AVALAIRE MESO 4 SC** application.
- When weeds are stressed due to drought, heat, lack of fertility, flooding, or prolonged cool temperatures control can be reduced or delayed since the weeds are not actively growing. Weed escapes or regrowth may occur when application is made under prolonged stress conditions. Optimum weed control will be obtained if an application of **AVALAIRE MESO 4 SC** is made following label directions when weeds are actively growing.
- **AVALAIRE MESO 4 SC** may be applied with pyrethroid type insecticides (e.g., Lambda cyhalothrin).

USE RESTRICTIONS - AVALAIRE MESO 4 SC

- **DO NOT** apply this product to white popcorn or ornamental (Indian) corn.
- **DO NOT** cultivate corn within 7 days before or after application of this product as weed control may be reduced.
- **DO NOT** apply this product through any type of irrigation system unless specified under the specific crop section of the label.
- **DO NOT** apply this product with suspension fertilizers as the carrier.
- **DO NOT** apply this product post-emergence in a tank mix with emulsifiable concentrate grass herbicides, unless specifically directed under one of the tank mix sections of this label, or crop injury can occur.
- **DO NOT** make aerial applications of this product unless specified in the specific crop directions of this label.

MANDATORY SPRAY DRIFT MANAGEMENT

Aerial Applications

- Do not release spray at a height greater than 10 ft above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- For all applications, applicators are required to use a Coarse or coarser droplet size (ASABE S572.1).
- The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

MANDATORY SPRAY DRIFT MANAGEMENT *continued...*

Ground Applications

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- For all applications, applicators are required to use a Coarse or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

Spray Drift Advisories

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.

BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size - Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size - Aircraft

- Adjust Nozzles - Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT - Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift. When applying aurally to crops, do not release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that

layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

WINDBLOWN SOIL PARTICLES

AVALAIRE MESO 4 SC has the potential to move off-site due to wind erosion. Soils that are subject to wind erosion usually have a high silt and/or fine to very fine sand fractions and low organic matter content. Other factors which can affect the movement of windblown soil include the intensity and direction of prevailing winds, vegetative cover, site slope, rainfall, and drainage patterns. Avoid applying **AVALAIRE MESO 4 SC** if prevailing local conditions may be expected to result in off-site movement.

AERIAL APPLICATION INSTRUCTIONS FOR CORN AND SUGARCANE

RESTRICTION: AVALAIRE MESO 4 SC can be applied aerially only to corn and sugarcane.

AVALAIRE MESO 4 SC may be applied aerially for preemergence or postemergence weed control in corn only in the following states: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Nebraska, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin and Wyoming.

AVALAIRE MESO 4 SC may be applied aerially for preemergence or postemergence weed control in sugarcane only in the following states: Florida, Louisiana and Texas.

Applications must be made in a minimum of 2 gallons of water per acre.

PRE-EMERGENCE GROUND APPLICATION INSTRUCTIONS

Apply **AVALAIRE MESO 4 SC** preemergence with a carrier volume of 10-60 gal/A.

Spray nozzles must be uniformly spaced, the same size and type, and must provide accurate and uniform application. Apply in a spray volume of 10-60 gal/A using water or liquid fertilizer (excluding suspension fertilizers) as the carrier. Use a pump that can maintain a pressure of at least 35-40 psi at the nozzles and provide proper agitation within the tank to keep the product dispersed. Lower pressures may be used with extended range or drift reduction nozzles.

Always ensure that agitation is maintained until spraying is completed, even if stopped for brief periods of time. If the agitation is stopped for more than 5 minutes, resuspend the spray solution by running on full agitation prior to spraying.

POST-EMERGENCE GROUND APPLICATION INSTRUCTIONS

Spray nozzles must be uniformly spaced, the same size and type, and must provide accurate and uniform application. Use spray nozzles that provide medium to coarse droplet size to provide good coverage and avoid drift. Good weed coverage is essential for optimum weed control. Boom height for broadcast over-the-top applications must be based on the height of the crop – at least 15 inches above the crop canopy.

Apply in a spray volume of 10-30 gal/A using water as a carrier. Use a pump that can maintain a pressure of at least 35-40 psi at the nozzles and provide proper agitation within the tank to keep the product dispersed. Lower pressures may be used with extended range or drift reduction nozzles. When weed foliage is dense, use a minimum of 20 gals.

Flat fan nozzles of 80° or 110° are advised for optimum postemergence coverage. **DO NOT** use floodjet nozzles or controlled droplet application equipment for postemergence applications.

Nozzles may be angled forward 45° to enhance penetration of the crop and provide better coverage. Ensure that all in-line strainer and nozzle screens in the sprayer are 50-mesh or coarser.

Always ensure that agitation is maintained until spraying is completed, even if stopped for brief periods of time. If the agitation is stopped for more than 5 minutes, resuspend the spray solution by running on full agitation prior to spraying.

USE DIRECTIONS WITH SPRAY ADDITIVES

POSTEMERGENCE ADJUVANTS

When an adjuvant is to be used with this product, the use of an adjuvant that meets the standards of the Chemical Producers and Distributors Association (CPDA) adjuvant certification program is advised.

The following adjuvant directions are intended primarily for **AVALAIRE MESO 4 SC** use in corn. Refer to the use directions section of each crop section for specific adjuvant directions.

POSTEMERGENCE APPLICATIONS TO FIELD CORN AND SEED CORN

For postemergence applications made after the crop has emerged, add crop oil concentrate (COC) to the spray solution at the rate of 1.0 gal/100 gal of water (1.0% v/v). The use of a nonionic surfactant (NIS) at 1 qt/100 gallons of water (0.25% v/v) instead of COC is allowed, but the weed control achieved with COC is consistently better than NIS. **The use of methylated seed oil (MSO) adjuvants or MSO blend adjuvants for postemergence applications of AVALAIRE MESO 4 SC may cause severe crop injury to occur. DO NOT use MSO adjuvants for postemergence use unless directed for a specific tank mix under the AVALAIRE MESO 4 SC TANK MIXTURES FOR CORN section of this label.** In addition to COC, always add spray grade UAN (e.g., 28-0-0) to the spray solution at a rate of 2.5% (v/v) or AMS at 8.5 lb/100 gal of spray solution, except if precluded elsewhere on this label or by a supplemental **AVALAIRE MESO 4 SC** label.

POSTEMERGENCE APPLICATIONS TO SWEET CORN AND YELLOW POPCORN

DO NOT add UAN or AMS when making postemergence applications of AVALAIRE MESO 4 SC to yellow popcorn or sweet corn, or severe crop injury may occur.

For postemergence applications to yellow popcorn and sweet corn, the use of a nonionic surfactant (NIS) instead of a crop oil concentrate (COC) is advised, so as to minimize the risk of crop injury. A COC may be used, and will increase the level of weed control achieved, especially under dry growing conditions, but the risk of crop injury is increased significantly under lush growing conditions. For optimum control, the addition of atrazine is advised wherever rotational or local atrazine restrictions allow.

PREEMERGENCE ADJUVANTS

For AVALAIRE MESO 4 SC preplant or preemergence applications, and where weeds are present, the use of any adjuvant for agricultural use is permitted. In these situations, MSO type adjuvants are typically better than COC type adjuvants, which are typically better than NIS type adjuvants for enhancing weed control. UAN or AMS can be added and typically provides better weed control than not adding one of these. 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.

SPRAY EQUIPMENT CLEANING

It is important to follow the procedures below for cleaning equipment before spraying a crop other than corn. Mix only as much spray solution as is needed.

- 1) Flush tank, hoses, boom, and nozzles with clean water.
- 2) Prepare cleaning solution of 1 gal. of household ammonia per 25 gals. of water. Commercial spray tank cleaners can be used in lieu of ammonia/water solution.
- 3) Using a pressure washer, clean the inside of the spray tank with the cleaning solution. Wash ALL parts of the tank, including the inside top surface. If a pressure washer is not available, fill the sprayer with the cleaning solution to ensure contact of the cleaning solution with all internal surfaces of the tank and plumbing. Start agitation in the spray and recirculate the cleaning solution for a minimum of 15 minutes. All visible deposits of spray solution must be removed from the spray tank before making any other applications.
- 4) Flush hoses, spray lines, and nozzles with cleaning solution for a minimum of 1 minute.
- 5) Dispose of rinsate from steps 1-3 in an appropriate manner.
- 6) Repeat steps 2-5.

- 7) Remove nozzles, screens, and strainers and clean separately in the ammonia solution after completing the previous steps.
- 8) Rinse the complete spray system with clean water.

MIXING INSTRUCTIONS

See the **Crop Use Directions** sections of the label for specific tank mix instructions.

Always refer to labels of other pesticide products for mixing directions and precautions which may differ from those outlined here. Use in accordance with the most restrictive label limitations and precautions.

MIXING RESTRICTIONS

- **DO NOT** exceed any dosage rates specified on labels.
- **DO NOT** mix this product with any product containing a label prohibition against such mixing.
- **DO NOT** tank mix **AVALAIRE MESO 4 SC** with any other insecticide, fungicide, fertilizer, or adjuvant not specified on this label without first testing compatibility, as poor mixing can occur. Test compatibility on a small scale (including a jar test) before actual tank mixing.

MIXING PROCEDURE

1. Use sprayers in good operating condition with good agitation. Ensure that the sprayer is cleaned according to the label instructions of the product label used prior to **AVALAIRE MESO 4 SC**. For post-emergence applications, use clean water only for the spray solution. Ensure that all in-line strainers and nozzle screens in the sprayer are 50-mesh or coarser. **DO NOT** use screens finer than 50-mesh.
2. Use liquid fertilizer (NOT suspension fertilizer) as the carrier for pre-emergence applications.
3. Start filling spray tank or pre-mix tank with clean water and begin agitation. Maintain constant agitation.
4. When sprayer or pre-mix is half full of water, add AMS, maintaining agitation until dispersed.
5. Add **AVALAIRE MESO 4 SC** slowly and agitate until completely dissolved. Wait at least 1 minute after the last of the **AVALAIRE MESO 4 SC** has been added to allow for complete dispersion. If using cold water, a longer agitation period may be required to ensure adequate dispersing.
6. If tank mixing, add the tank mix product.
7. Add the adjuvant and UAN, if needed, and continue to fill tank to desired level with water.

AVALAIRE MESO 4 SC WEED CONTROL TABLES

AVALAIRE MESO 4 SC applied as directed in this label will control or partially control the weeds listed in Tables 1 and 2.

Partial control means either erratic control (good to poor control) or control that is below what is regarded as acceptable control for commercial weed control.

For best post-emergence results, apply **AVALAIRE MESO 4 SC** to actively growing weeds.

Dry weather following pre-emergence applications may reduce efficacy of residual weed control. If irrigation is available, apply ½-1-inch water after pre-emergence application. If irrigation is not available, make a uniform shallow cultivation as soon as weeds emerge.

AVALAIRE MESO 4 SC applied alone or in a tank-mix with atrazine will not provide consistent or adequate control of weeds that are resistant to post-emergence HPPD inhibiting herbicides.

Refer to the crop sections of this label for specific use directions and application rates.

Table 1. Weeds Controlled with Post-Emergence Applications of AVALAIRE MESO 4 SC

Common Name	Scientific Name	AVALAIRE MESO 4 SC 3 Fl. Oz. /A (0.094 lb. AI/A) Applied Alone	AVALAIRE MESO 4 SC ¹ 2.5-3.0 Fl. Oz./A (0.078- 0.094 lb. AI/A) + Atrazine
		Apply to Weeds <5" Tall ²	
Amaranth, palmer	<i>Amaranthus palmeri</i>	PC ⁺	C ⁺
Amaranth, powell	<i>Amaranthus powellii</i>	C	C
Amaranth, spiny	<i>Amaranthus spinosus</i>	C	C
Atriplex	<i>Chenopodium orach</i>	C	C
Broadleaf signalgrass	<i>Urochloa platyphylla</i>	C ⁺	C ⁺
Buckwheat, wild	<i>Polygonum convolvulus</i>	PC	PC
Buffalobur	<i>Solanum rostratum</i>	C	C
Burcucumber	<i>Sicyos angulatus</i>	PC	C ⁺
Carpetweed	<i>Mollugo verticillata</i>	C	C
Carrot, wild	<i>Daucus carota</i>	PC	C
Chickweed, common	<i>Stellaria media</i>	C	C
Cocklebur, common	<i>Xanthum strumarium</i>	C	C
Crabgrass, large	<i>Digitaria sanguinalis</i>	C ⁺	C ⁺
Dandelion	<i>Taraxacum officinale</i>	NC	PC
Dock, curly	<i>Rumex crispus</i>	PC	PC
Galinsoga	<i>Galinsoga parviflora</i>	C	C
Hemp	<i>Cannabis sativa</i>	C	C
Horsenettle	<i>Solanum carolinense</i>	PC	C
Jimsonweed	<i>Datura stramonium</i>	C	C
Horseweed (marestail)	<i>Conyza canadensis</i>	PC	C
Knotweed, prostrate	<i>Polygonum aviculare</i>	PC	PC
Kochia	<i>Kochia scoparia</i>	PC ⁺	C ⁺
Lambsquarters, common	<i>Chenopodium album</i>	C	C
Mallow, Venice	<i>Hibiscus trionum</i>	NC	C
Morningglory, entireleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, ivyleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, pitted	<i>Ipomoea lacunosa</i>	PC	C
Mustard, wild	<i>Brassica kaber</i>	C	C
Nightshade, black	<i>Solanum nigrum</i>	C	C
Nightshade, Eastern black	<i>Solanum ptychanthum</i>	C	C
Nightshade, hairy	<i>Solanum sarrachoides</i>	C	C
Nutsedge, yellow	<i>Cyperus esculentus</i>	PC	PC
Pigweed, redroot	<i>Amaranthus retroflexus</i>	C	C
Pigweed, smooth	<i>Amaranthus hybridus</i>	C	C
Pigweed, tumble	<i>Amaranthus albus</i>	C	C
Pokeweed, common	<i>Phytolacca americana</i>	PC	PC
Potatoes, volunteer	<i>Solanum spp.</i>	C	C
Pusley, Florida	<i>Richardia scabra</i>	C ⁺	C ⁺
Ragweed, common	<i>Ambrosia artemisiifolia</i>	PC	C
Ragweed, giant	<i>Ambrosia trifida</i>	C ⁺	C
Sesbania, hemp	<i>Sesbania exaltata</i>	C	C
Sida, prickly (teaweed)	<i>Sida spinosa</i>	NC	C ⁺
Smartweed, ladythumb	<i>Polygonum persicaria</i>	C ⁺	C
Smartweed, pale	<i>Polygonum lapathifolium</i>	C ⁺	C
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	C ⁺	C

Common Name	Scientific Name	AVALAIRE MESO 4 SC 3 Fl. Oz./A (0.094 lb. AI/A) Applied Alone	AVALAIRE MESO 4 SC ¹ 2.5-3.0 Fl. Oz./A (0.078- 0.094 lb. AI/A) + Atrazine
		Apply to Weeds <5" Tall ²	
Sunflower, common	<i>Helianthus annuus</i>	C	C
Thistle, Canada	<i>Cirsium arvense</i>	NC	PC
Velvetleaf	<i>Abutilon theophrasti</i>	C	C
Waterhemp, common	<i>Amaranthus rudis</i>	C ⁺	C
Waterhemp, tall	<i>Amaranthus tuberculatus</i>	C ⁺	C

¹AVALAIRE MESO 4 SC tank mixture with atrazine is approved only for use on corn and sugarcane.

²Weeds can be controlled at larger than listed sizes; however, to protect crop yield, manage weed resistance, and provide effective control, treat weeds before they reach 5" tall.

⁺Apply before weeds exceed 3" tall.

C = Control NC = Not Controlled PC = Partial Control

Table 2. Weeds Controlled with Pre-Emergence Applications of AVALAIRE MESO 4 SC

¹AVALAIRE MESO 4 SC tank mixture with atrazine is approved only for use on corn, grain sorghum and sugarcane. Refer to the crop sections on this label for specific use directions.

Common Name	Scientific Name	AVALAIRE MESO 4 SC Applied Alone	AVALAIRE MESO 4 SC + Atrazine ¹
Amaranth, palmer	<i>Amaranthus palmeri</i>	C	C
Amaranth, powell	<i>Amaranthus powellii</i>	C	C
Amaranth, spiny	<i>Amaranthus spinosus</i>	C	C
Broadleaf signalgrass	<i>Urochloa platyphylla</i>	PC	PC
Buffalobur	<i>Solanum rostratum</i>	C	C
Carpetweed	<i>Mollugo verticillata</i>	C	C
Chickweed, common	<i>Stellaria media</i>	C	C
Cocklebur, common	<i>Xanthum strumarium</i>	PC	C
Crabgrass, large	<i>Digitaria sanguinalis</i>	PC	PC
Galinsoga	<i>Galinsoga parviflora</i>	C	C
Jimsonweed	<i>Datura stramonium</i>	C	C
Kochia	<i>Kochia scoparia</i>	PC	C
Lambsquarters, common	<i>Chenopodium album</i>	C	C
Morningglory, entireleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, ivyleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, pitted	<i>Ipomoea lacunosa</i>	PC	C
Nightshade, Eastern black	<i>Solanum ptychanthum</i>	C	C
Nightshade, hairy	<i>Solanum sarrachoides</i>	C	C
Pigweed, redroot	<i>Amaranthus retroflexus</i>	C	C
Pigweed, smooth	<i>Amaranthus hybridus</i>	C	C
Pigweed, tumble	<i>Amaranthus albus</i>	C	C
Ragweed, common	<i>Ambrosia artemisiifolia</i>	C	C
Ragweed, giant	<i>Ambrosia trifida</i>	PC	C
Smartweed, ladythumb	<i>Polygonum persicaria</i>	C	C
Smartweed, pale	<i>Polygonum lapathifolium</i>	C	C
Smartweed, Pennsylvania	<i>Polygonum pensylvanicum</i>	C	C
Sunflower, common	<i>Helianthus annuus</i>	PC	C
Velvetleaf	<i>Abutilon theophrasti</i>	C	C
Waterhemp, common	<i>Amaranthus rudis</i>	C	C
Waterhemp, tall	<i>Amaranthus tuberculatus</i>	C	C

C = Control PC = Partial Control

ROTATIONAL CROP INTERVALS

If **AVALAIRE MESO 4 SC** is applied alone, follow the crop rotation intervals listed below in Table 3. If **AVALAIRE MESO 4 SC** is tank-mixed with other products, then follow the most restrictive product's crop rotation interval.

Table 3. Time Interval between AVALAIRE MESO 4 SC Application and Replanting/Planting of Rotational Crop

Replant/Rotational Interval	Crop
Anytime	Asparagus, Corn (all types), Cranberry, Flax, Kentucky bluegrass grown for seed, Pearl Millet, Oats, Rhubarb, Ryegrass (perennial and annual) grown for seed, Sorghum (grain and sweet), Soybeans, Sugarcane, Tall fescue grown for seed
4 Months	Small grain cereals (wheat, barley, rye)
10 Months	Alfalfa, Blueberry, Canola, Cotton, Currant, Lingonberry, Okra, Peanuts, Peas*, Potato, Rice, Snap Beans*, Sunflowers, Tobacco
18 Months	Cucurbits, Dry beans, Red Clover, Sugar Beets, All other crops

*Plant these rotation crops ONLY if the criteria listed below have been met. If all criteria have NOT been met, plant peas and snap beans a minimum of 18 months following **AVALAIRE MESO 4 SC** application.

- A minimum of 20 inches of rainfall plus irrigation has occurred between application and planting of the rotational crop.
- Soil pH is greater than 6.0.
- 3 fl. oz./A (**0.094 lb. AI/A**) or less of this product has been applied no later than June 30th the year preceding rotational crop planting.
- No other HPPD herbicides (e.g., Mesotrione, Glyphosate + Mesotrione + S-Metolachlor, + S-Metolachlor 19% Atrazine 18.61% + Mesotrione 2.44%, S-Metolachlor 27.1% + Atrazine 9.94%+ Mesotrione 2.71%, Mesotrione + S-Metolachlor, Topramezone, Isoxaflutole, Thiencarbazone-methyl + Tembotrione, Thiencarbazone-methyl + Isoxaflutole, or Tembotrione) were applied the year prior to planting peas and snap beans.

RESTRICTION:

- **DO NOT** plant peas or snap beans on sand, sandy loam, or loamy sand soils in Minnesota or Wisconsin.

CROP USE DIRECTIONS – CORN

Apply **AVALAIRE MESO 4 SC** by ground for pre-emergence or post-emergence weed control in field corn, seed corn, yellow popcorn, and sweet corn. Apply **AVALAIRE MESO 4 SC** to corn up to 30" tall or up to the 8-leaf stage of corn growth to control broadleaf and grass weeds listed in Tables 1 and 2.

Aerial applications of **AVALAIRE MESO 4 SC** can be made pre-emergence or post-emergence in the following states: **Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.**

See seed company instructions for use on field corn inbred lines. Special adjuvant restrictions must be followed for post-emergence applications of **AVALAIRE MESO 4 SC** in yellow popcorn or sweet corn (see the **Spray Additives** section of this label).

Post-emergence application of **AVALAIRE MESO 4 SC** to yellow popcorn and sweet corn hybrids may cause crop bleaching. Bleach is transitory and will not affect final yield or quality. Herbicide sensitivity, however, can vary widely in yellow popcorn and sweet corn, and all hybrids of these have not been tested. Contact your local popcorn/sweet corn company, Fieldman, or University Specialist to learn about hybrid directions before making a post-emergence application of **AVALAIRE MESO 4 SC** to yellow popcorn or sweet corn. **DO NOT** include nitrogen based adjuvants (UAN or AMS) when making post-emergence applications of **AVALAIRE MESO 4 SC** to yellow popcorn or sweet corn.

Temporary transient bleaching may occur in field corn treated with **AVALAIRE MESO 4 SC** post-emergence under extreme weather conditions or when the crop is under stress. Field corn will quickly outgrow this condition and develop normally.

Corn Restrictions:

- **DO NOT** apply more than 7.7 fl. oz./A (0.24 lb. mesotrione AI/A) of **AVALAIRE MESO 4 SC** per year.
- **DO NOT** make more than 2 applications per year when using reduced application rates.

- **DO NOT** exceed 7.7 fl. oz. (0.24 lb. AI/A) in a single pre-emergence application.
- **DO NOT** exceed 3.0 fl. oz. (0.094 lb. AI/A) in a single post-emergence application.
- Minimum retreatment interval is 14 days.
- **DO NOT** feed or harvest forage, grain, or stover within 45 days after application.
- **DO NOT** apply **AVALAIRE MESO 4 SC** to white popcorn or ornamental (Indian) corn.

AVALAIRE MESO 4 SC Used Alone – Post-Emergence

Apply 3.0 fl. oz./A (0.094 lb. AI/A) per application. Always add an appropriate adjuvant to the spray tank (see the **Spray Additives** section of this label).

Apply to actively growing weeds. See Table 1 for a complete list of weeds controlled. Susceptible weeds that emerge post-application may be controlled after the herbicide is absorbed into the soil. **AVALAIRE MESO 4 SC** will not control most grass weeds.

Two post-emergence applications of **AVALAIRE MESO 4 SC** may be made under the following restrictions:

- Only one post-emergence application may be made if **AVALAIRE MESO 4 SC** has been applied pre-emergence. **DO NOT** exceed a total of 7.7 fl. oz./A (0.24 lb. AI/A) per year.
- Minimum retreatment interval is 14 days.
- Applications made at rates lower than 3.0 fl. oz./A. (0.094 lb. AI/A) post-emergence may not provide adequate weed control and may result in reduced residual control.
- **DO NOT** exceed a total of 6.0 fl. oz./A (0.19 lb. AI/A) for the two post-emergence applications.
- If a post-emergence application of **AVALAIRE MESO 4 SC** was made to ground that received pre-emergence treatment of another mesotrione-containing herbicide, atrazine must be tank mixed with **AVALAIRE MESO 4 SC**. If mixing **AVALAIRE MESO 4 SC** with atrazine, **DO NOT** apply to corn taller than 12”.
- Treat corn up to 30” tall or up to the 8-leaf stage of growth.
- **DO NOT** harvest, forage, or stover within 45 days post-application.

AVALAIRE MESO 4 SC Used Alone – Pre-Emergence

Apply 6.0-7.7 fl. oz./A (0.19-0.24 lb. AI/A) by ground sprayer in 10-30 gals. of water per acre to control broadleaf weeds (up to 80 gals. if applied with liquid fertilizer). See Table 2 for a complete list of weeds controlled. **AVALAIRE MESO 4 SC** can be tank mixed with other approved pre-emergence grass herbicides to control grasses. Refer to the tank mix section for a list of tank-mix partners.

AVALAIRE MESO 4 SC Tank Mixtures for Corn

Apply **AVALAIRE MESO 4 SC** in tank mix with other registered herbicides to improve spectrum of weed control in burndown, pre-emergence, or post-emergence applications. These tank mixtures can also be used to include a different mode of action herbicide to control and manage the development of resistant weed biotypes.

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.

Burndown Tank Mixtures in Corn

Apply **AVALAIRE MESO 4 SC** in tank mixture with other registered herbicides for burndown and residual weed control.

Apply 3.0 fl. oz./A (0.094 lb. AI/A) **AVALAIRE MESO 4 SC** with paraquat dichloride, glyphosate-isopropylammonium, dicamba, diglycolamine salt, and/or for improved broadleaf weed control with limited residual control before planting corn and before corn emergence. For better residual control, apply 6.0-7.7 fl. oz./A (0.19-0.24 lb. AI/A) **AVALAIRE MESO 4 SC** (see Table 2) with the products listed. Use the adjuvant system specified by the burndown herbicide. Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of weeds controlled.

Pre-Emergence Tank Mixture in Corn

Apply 5.3-7.7 fl. oz./A (0.16-0.24 lb. AI/A) of **AVALAIRE MESO 4 SC** in tank mixture with other registered herbicides (Table 4) for pre-emergence residual weed control. Refer to Table 2 for a list of weeds controlled by **AVALAIRE MESO 4 SC** applied pre-emergence.

Table 4. AVALAIRE MESO 4 SC Tank Mixtures for Pre-Emergence Application in Corn

Refer to the individual product labels of the products listed for precautionary statements, restrictions, use rates, approved uses, and a list of weeds controlled.

Atrazine	Atrazine + glyphosate-isopropylammonium
Atrazine + S- S-Metolachlor	Atrazine + dimethenamide-P
Acetochlor	Dimethenamide-P
Acetochlor + Atrazine	Pendimethalin

Post-Emergence Tank Mixtures in Corn

See Table 5 below for a list of tank mixtures that can be applied after corn has emerged. **DO NOT** apply less than 3.0 fl. oz./A (0.094 lb. AI/A) of **AVALAIRE MESO 4 SC** unless specified on this label, as a loss of residual control can occur.

Always add an appropriate adjuvant to the spray tank (See the **Spray Additives** section of this label). Refer to the individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of weeds controlled. Not all of the tank mix pesticides listed are registered for use on field corn, yellow popcorn, or sweet corn.

Table 5. AVALAIRE MESO 4 SC Tank Mixtures for Post-Emergence Application to Corn

Refer to the individual product labels for products listed for precautionary statements, restrictions, use rates, approved uses, and a list of weeds controlled.

Tank Mix Partner	Use Directions
Atrazine	See Table 1 for application rates and list of weeds controlled.
Nicosulfuron	This mixture will provide additional grass control. Refer to the product label for a list of weeds controlled.
Sodium salt of bentazon	This mixture will provide additional broadleaf weed control. Refer to the product label for a list of weeds controlled.
Rimsulfuron + Thifensulfuron methyl	This mixture will provide additional weed control. Refer to the product label for a list of weeds controlled.
Atrazine + Nicosulfuron + Rimsulfuron	
Atrazine + S- Metolachlor	DO NOT use nitrogen based adjuvants (UAN or AMS); apply as post-directed spray. DO NOT use crop oil concentrate (COC); use a non-ionic surfactant (NIS) to avoid crop injury. Control of emerged weeds can be reduced due to the adjuvant effect on weed coverage.
Citric acid	
Bromoxynil octanoate	This mixture will provide additional broadleaf weed control. Refer to the product label for use rates.
Atrazine + Glyphosate- isopropylammonium + S-Metolachlor	Use only on Agrisure® GT corn or Roundup Ready® corn. Crop death will occur if this mixture is applied to a corn hybrid that is not designated as Agrisure® GT or Roundup Ready®. DO NOT add urea ammonium nitrate (UAN) or methylated seed oil (MSO) adjuvants to this mixture or crop injury can occur.
Glufosinate	Use only on corn designated as LibertyLink®. Use of this mixture on corn hybrids not designated as LibertyLink® will result in severe crop injury or death. DO NOT use crop oil concentrate (COC) as an adjuvant or crop injury can occur.
Imazapyr + Imazethapyr	Use only on corn designated at Clearfield® corn. Use of this mixture on corn hybrids not designated as Clearfield® will result in severe crop injury or death. DO NOT use Methylated Seed Oil (MSO) or any MSO blend with this mixture or severe crop injury can occur.
Dicamba, Sodium salt + Primisulfuron-methyl	This mixture will control additional weeds. See product label for list of weeds controlled.
Prosulfuron	This mixture will control additional weeds. See product label for list of weeds controlled.
Primisulfuron-methyl +	This mixture will control additional weeds. See product label for list of weeds controlled.

Prosulfuron	
Nicosulfuron + Rimsulfuron	This mixture will control additional weeds. See product label for list of weeds controlled.
Nicosulfuron + Rimsulfuron + Atrazine	
Nicosulfuron + Thifensulfuron-methyl	This mixture will control additional weeds. See product label for list of weeds controlled.
Glyphosate	Use only on corn Agrisure® GT corn or Roundup Ready® corn. Use of this mixture on corn hybrids that are not designated as Agrisure® GT or Roundup Ready® will result in crop death. Add spray-grade ammonium sulfate (AMS) at a rate that delivers 8.5-17.0 lbs. of AMS/100 gals. of water. If the glyphosate product calls for an adjuvant in addition to AMS, add 0.25-0.5% v/v (1-2 quarts/100 gallons) of a non-ionic surfactant (NIS). DO NOT add urea ammonium nitrate (UAN), crop oil concentrate (COC) or methylated seed oil (MSO) adjuvants to this tank mixture or crop injury can occur.

CROP USE DIRECTIONS – ASPARAGUS

AVALAIRE MESO 4 SC can be applied broadcast or banded at a rate of 3.0-7.7 fl. oz./A (0.094-0.24 lb. AI/A) to asparagus as a spring application prior to spear emergence, as a post-harvest application (after final harvest), or both.

Use the 3.0 fl. oz./A (0.094 lb. AI/A) rate for post-emergence control or partial control of the emerged weeds listed in Table 1. Use the 6.0-7.7 fl. oz./A (0.19-0.24 lb. AI/A) rate for pre-emergence control or partial control of the weeds listed in Table 2. For banded applications, the application must be made to account for band width, i.e., to deliver 3.0-7.7 fl. oz. (0.094-0.24 lb. AI) per treated acre. For the best pre-emergence weed control with spring applications, **AVALAIRE MESO 4 SC** must be applied after fern mowing, disking or other tillage operation but prior to asparagus spear emergence.

When making post-harvest applications, the rate applied pre-emergence in the spring must be taken into account so as not to exceed the 7.7 fl. oz./A (0.24 lb. AI/A) per year rate limit. Post-harvest applications must be made in a way that minimizes contact with any standing asparagus spears or ferns and maximizes contact with the weeds and/or soil, e.g., by using a directed or semi-directed type application, or crop injury may occur. With post-harvest applications, the use of an adjuvant will increase the risk of crop injury.

If weeds are emerged at the time of the **AVALAIRE MESO 4 SC** application, the addition of a crop oil concentrate (COC) type adjuvant at the rate of 1% v/v or a non-ionic surfactant (NIS) at the rate of 0.25% v/v is advised. In addition to COC or NIS, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v or ammonium sulfate (AMS) at the rate of 8.5 lbs./100 gallons of spray solution may be added for improved burndown of emerged weeds. If weeds have not yet emerged, no adjuvant is advised.

Asparagus Restrictions:

- **DO NOT** apply more than 7.7 fl. oz./A (0.24 lb. AI/A) of **AVALAIRE MESO 4 SC** per year.
- **DO NOT** apply more than 7.7 fl. oz./A (0.24 lb. AI/A) in a single application.
- **DO NOT** make more than two **AVALAIRE MESO 4 SC** applications per year when using reduced application rates.
- Minimum retreatment interval is 14 days.

CROP USE DIRECTIONS - BLUEGRASS, RYEGRASS (ANNUAL AND PERENNIAL), AND TALL FESCUE GROWN FOR SEED

AVALAIRE MESO 4 SC can be applied to bluegrass, annual ryegrass, perennial ryegrass, or tall fescue which is grown for seed. **AVALAIRE MESO 4 SC** can be applied as a pre-emergence application to bare soil (new seeding) or as a post-emergence application to an emerged grass crop.

Pre-Emergence Applications

Apply **AVALAIRE MESO 4 SC** as a broadcast, surface spray at a rate of 6.0 fl. oz./A (0.19 lb. AI/A) to a newly seeded crop. The **AVALAIRE MESO 4 SC** application must be made prior to crop and weed emergence. Rainfall or irrigation as the newly seeded grass crop emerges from the soil may increase the risk of injury from **AVALAIRE MESO 4 SC**. Grass crop injury symptoms include temporary bleaching of newly emerged leaves, or in extreme conditions, stunting. For a list of pre-emergence weeds controlled or partially controlled see Table 2. In addition to the weeds listed in Table 2, **AVALAIRE**

MESO 4 SC applied pre-emergence will control manna grass.

Post-Emergence Application

Apply **AVALAIRE MESO 4 SC** as a broadcast post-emergence spray at a rate of 3.0-6.0 fl. oz./A (0.094-0.19 lb. AI/A) to emerged bluegrass, perennial ryegrass or tall fescue grown for seed. Use the 3.0 fl. oz./A (0.094 lb. AI/A) rate for post-emergence control or partial control of the weeds listed in Table 1. In addition to the weeds listed in Table 2, **AVALAIRE MESO 4 SC** applied post-emergence will control manna grass (up to 3 tillers).

Use the 6.0 fl. oz./A (0.19 lb. AI/A) rate for post-emergence weed control plus extended residual weed control (see Table 2). The addition of a crop oil concentrate type adjuvant at 1% v/v or a non-ionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v is advised. Post-emergence applications of **AVALAIRE MESO 4 SC** may result in temporary bleaching of the grass crop.

In addition to COC or NIS, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v or ammonium sulfate (AMS) at the rate of 8.5 lbs./100 gallons of spray solution may also be added for improved control of emerged weeds. The addition of UAN or AMS will improve consistency of post-emergence weed control but will also increase the risk of grass crop injury, especially at **AVALAIRE MESO 4 SC** rates greater than 3.0 fl. oz./A (0.094 lb. AI/A). If grass crop injury is a concern, do not add UAN or AMS to the spray solution.

Tank mixing other pesticides with **AVALAIRE MESO 4 SC** post-emergence may increase the risk of crop injury. Avoid adding pesticides with emulsifiable concentrate (EC) type formulations to **AVALAIRE MESO 4 SC** for applications made post-emergence to the crop.

Restrictions:

- **DO NOT** harvest the grass crop for seed or straw within 60 days following the application of **AVALAIRE MESO 4 SC**.
- **DO NOT** graze or feed forage from treated areas within 14 days following harvest of seed or straw and at least 74 days after application of **AVALAIRE MESO 4 SC**.
- **DO NOT** make more than two applications of **AVALAIRE MESO 4 SC** per year.
- Minimum retreatment interval is 14 days.
- **DO NOT** apply more than 6 fl. oz./A (0.19 lb. AI/A) in a single application and not more than 9 fl. oz./A (0.282 lb. AI/A) of **AVALAIRE MESO 4 SC** per year.
- Applications of **AVALAIRE MESO 4 SC** to grasses grown for seed species not listed on this label may result in severe injury.

CROP USE DIRECTIONS – BUSH AND CANEBERRIES (CROP GROUP 13-07A AND 13-07B)

Note: Not all cultivars and types of berries that are included within the Environmental Protection Agencies definition of bush and caneberreries (Crop Subgroups 13-07A and 13-07B) have been tested and shown to have adequate crop safety to mesotrione. Those that have been tested, and are believed to be reasonably fit, are listed below along with use directions for that crop. If **AVALAIRE MESO 4 SC** is used on bush or caneberreries not listed below, severe crop injury may occur.

AVALAIRE MESO 4 SC may be applied as a pre-bloom post-directed spray in high bush blueberry, lingonberry, red currant, black currant, black raspberry, red raspberry, and blackberry. For a list of weeds controlled see Tables 1 and 2. **AVALAIRE MESO 4 SC** may be applied in bush or caneberreries at a rate up to 6 fl. oz./A (0.19 lb. AI/A). If a split application weed control program is desired, 3 fl. oz./A (0.094 lb. AI/A) followed by 3 fl. oz./A (0.094 lb. AI/A) may be used, but no more than two applications per year are allowed and not more than 6 fl. oz./A (0.19 lb. AI/A) in total per year. If two applications are made, they must be made no closer than 14 days apart. The use of a crop oil concentrate (COC) type adjuvant at the rate of 1% v/v is advised, but avoid using COC adjuvants that are injurious to bush or caneberry leaves. **DO NOT** apply **AVALAIRE MESO 4 SC** to bush or caneberreries after the onset of the bloom stage or illegal residues may occur.

In low bush blueberries, **AVALAIRE MESO 4 SC** may only be applied in the non-bearing year. This application may be a broadcast application. Up to 6 fl. oz./A (0.19 lb. AI/A) of **AVALAIRE MESO 4 SC** may be applied in a single application, or 3 fl. oz./A (0.094 lb. AI/A) followed by 3 fl. oz./A (0.094 lb. AI/A) if used in a split application program. No more than two applications per year are allowed and not more than 6 fl. oz./A (0.19 lb. AI/A) in total per year. If two applications are made, they must be made no closer than 14 days apart. The use of a crop oil concentrate (COC) type adjuvant at 1% v/v is advised. Applications of **AVALAIRE MESO 4 SC** during dry weather conditions and/or temperatures above 85° can cause injury to low bush blueberries. Applications of **AVALAIRE MESO 4 SC Turf** can cause yellowing or necrosis of leaves and

under severe conditions, leaf drop may occur especially on “Sourtop” variety blueberries.

Bush & Caneberry Restrictions:

- **DO NOT** make more than two applications of **AVALAIRE MESO 4 SC** per year when using reduced application rates.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. AI/A) in a single application.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. AI/A) per year.
- If two applications are made, they must be made no closer than 14 days apart.

CROP USE DIRECTIONS – CITRUS FRUIT, POME FRUIT, STONE FRUIT AND TREE NUTS

AVALAIRE MESO 4 SC may be used for postemergence and residual control of weeds listed in Tables 1 and 2 in the following crops.

Citrus fruit – group 10-10 (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, sour orange, sweet orange, pummelo, Russell River lime, Satsuma mandarin, sweet lime, Tachibana orange, Tahiti lime, tangelo, tangerine (Mandarin), tangor, trifoliolate orange, uniq fruit, cultivars, varieties and/or hybrids of these)

Pome fruit – group 11-10 (apple, azarole, crabapple, loquat, mayhaw, medlar, pear, Asian pear, quince, Chinese quince, Japanese quince, tejocote, cultivars, varieties and/or hybrids of these)

Stone fruit – group 12-12 (apricot, Japanese apricot, capulin, black cherry, Nanking cherry, sweet cherry, tart cherry, Chinese jujube, nectarine, peach, plum, American plum, beach plum, Canada plum, cherry plum, Chickasaw plum, Damson plum, Japanese plum, Klamath plum, prune plum, plumcot, sloe, cultivars, varieties and/or hybrids of these)

Tree nuts – group 14-12 (African nut-tree, almond, beech nut, Brazil nut, Brazilian pine, bunya, bur oak, butternut, Cajou nut, candlenut, cashew, chestnut, chinquapin, coconut, Coquito nut, Dika nut, ginkgo, Guiana chestnut, hazelnut (filbert), heartnut, hickory nut, Japanese horse-chestnut, macadamia nut, Mongongo nut, monkeypot, monkey puzzle nut, Okari nut, Pachira nut, peach palm nut, pecan, pequi, pili nut, pine nut, pistachio, Sapucaia nut, tropical almond, black walnut, English walnut, yellowhorn, cultivars, varieties and/or hybrids of these)

Precautions:

- Avoid crop injury by applying the spray to the grove or orchard floor and to the weeds, while avoiding contact with crop foliage, stems or fruit.
- Contact of **AVALAIRE MESO 4 SC** with crop can result in bleaching injury that is typically temporary.
- Use trunk guards to protect plants until adequate bark has developed.
- Specified rates are based on broadcast treatment. For band applications around trees in fruit or nut plantings, reduce the broadcast rate of **AVALAIRE MESO 4 SC** and carrier per acre in proportion to the area actually sprayed. (See Banded Applications Section)

Restrictions:

- Apply **AVALAIRE MESO 4 SC** only to pome fruit, stone fruit and nut trees that have been established for a minimum of 12 months. **AVALAIRE MESO 4 SC** can be applied in citrus trees or plantings that are less than 12 months old and are exhibiting normal growth and vigor.
- **DO NOT** apply in stressed orchards - stressed due to poor weather or other abiotic factors.
- **DO NOT** exceed a total of 12 fl. oz. per acre (0.376 lb. a.i./A) of **AVALAIRE MESO 4 SC** per year or in a 12-month period.
- **DO NOT** exceed 6 fl.oz. per acre (0.19 lb a.i./A) of **AVALAIRE MESO 4 SC** for the first application.
- **DO NOT** exceed 3 applications per year or in a 12-month period when using reduced application rates.
- Allow at least 5 months between applications of **AVALAIRE MESO 4 SC** at 6 fl. oz./A (0.19 lb a.i./A) and at least 6 weeks between applications of 6 fl. oz./A (0.19 lb a.i./A) and subsequent applications of 3 fl. oz./A. (0.094 lb a.i./A) (Applications must follow one of the four programs listed in Table 5 below.)

- Pome fruit, stone fruit or tree nuts Pre Harvest Interval (PHI) is 30 days.
- Citrus Pre Harvest Interval (PHI) is 1 day.
- **DO NOT** use on soils with greater than 20% gravel.
- **DO NOT** apply **AVALAIRE MESO 4 SC** through any type of irrigation system.
- **DO NOT** apply **AVALAIRE MESO 4 SC** by air.

Spray Adjuvants

For application to emerged weeds, the use of COC (crop oil concentrate) type adjuvant at 1% v/v or NIS (non-ionic surfactant) at 0.25% v/v is advised. Addition of AMS (ammonium sulfate) or other nitrogen-based adjuvants will increase efficacy when used in combination with COC or NIS. For more information see Spray Adjuvants section on this label.

Banded Applications

When applying a row or banded treatment of **AVALAIRE MESO 4 SC**, the following formula may be used to calculate the amount per acre:

band width in inches

row width in inches X broadcast rate per acre = Amount needed per acre of field.

Tank Mix Instructions

AVALAIRE MESO 4 SC may be mixed and applied in combination with most commonly used herbicides registered for use in the approved crops in order to expand the postemergence weed control – spectrum and residual activity. Acceptable tankmix partners include: Helmqat (EPA Reg. No. 74530-48, paraquat-dichloride), Gramoxone SL 2.0 (EPA Reg. No. 100-1431, paraquat-dichloride), Helosate PlusAdvance (EPA Reg. No. 74530-43, Glyphosate-isopropylammonium), Touchdown Total (EPA Reg. No. 100-1169, Glycine, N-(phosphonomethyl)- potassium salt), Touchdown HiTech (EPA Reg. No. 100-1182, Glycine, N-(phosphonomethyl)- potassium salt), Rely® 280 (EPA Reg. No. 7969-448, glufosinate), GoalTender® (EPA Reg. No. 62719-447, oxyfluorfen), Princep® (EPA Reg. No. 100-526, somazine), Solicam® (EPA Reg. No. 61842-41, norflurazon), Tetris™ SG (EPA Reg. No. 91234-85, rimsulfuron), Surflan® (EPA Reg. No. 70506-43, oryzalin), Prowl H2O (EPA Reg. No. 241-418, pendimethlin), Karmex® (EPA Reg. No. 66222-51, diuron), Hyvar® (EPA Reg. No. 432-1546, bromacil), Krovar® (EPA Reg. No. 5481-635, bromacil + diuron) or Alion® (EPA Reg. No. 264-1106, indaziflam). Tank mixtures can be effective tools to help control or manage the development of resistant weeds. The application of mixtures or sequences of effective herbicides, with different sites of action, can provide the diversity needed for management of herbicide resistance.

Refer to individual product labels for precautionary statements, restrictions, rates, approved uses and a list of weeds controlled.

Weed Control (Table 1 and 2)

AVALAIRE MESO 4 SC provides both preemergence and postemergence control of susceptible weeds. Best control is obtained from preemergence applications before germination of seed or as postemergence applications are made before weeds reach 5 inches in height. Susceptible weeds are listed in Tables 1 and 2 of this label. Rainfall or irrigation soon after application will enhance preemergence activity.

USE DIRECTIONS

Apply as a directed or shielded spray. Avoid contact with trunk surfaces, fruit or crop foliage. **DO NOT** apply when nuts or fruits are on the ground at harvest. Ensure that soil is firm, settled and relatively free of trash at time of application. Also ensure that the soil is free of depressions around trees where rain or irrigation water can concentrate. Apply the first application of **AVALAIRE MESO 4 SC** in late fall/early winter or spring and subsequent applications utilizing one of the programs noted in the Table 6.

Table 6. AVALAIRE MESO 4 SC Application Programs, Rates and Intervals

Program	Application Rate (fl. z./A)			Application Interval (Wk.)
	1 st Application	2 nd Application	3 rd Application	
1	6	6	-	20
2	6	3	-	6
3	6	3	3	6
4	3	3	3	6

Apply **AVALAIRE MESO 4 SC** in a spray volume of 10-40 gal/A.

For effective residual weed control, **AVALAIRE MESO 4 SC** must be moved into the weed seed germination zone. For preemergence weed control, apply **AVALAIRE MESO 4 SC** before rainfall or irrigation. For optimum residual control **AVALAIRE MESO 4 SC** can be tank-mixed with residual herbicides including: Princep® (EPA Reg. No. 100-526, somazine), Solicam® (EPA Reg. No. 61842-41, norflurazon), Tetris™ SG (EPA Reg. No. 91234-85, rimsulfuron), Goal Tender (EPA Reg. No. 62719-447, oxyfluorfen), Prowl (EPA Reg. No. 241-418, pendimethlin), Karmex® (EPA Reg. No. 66222-51, diuron), Hyvar® (EPA Reg. No. 432-1546, bromacil), Krovar® (EPA Reg. No. 5481-635, bromacil + diuron) or Alion® (EPA Reg. No. 264-1106, indaziflam).

For optimum postemergence weed control, apply **AVALAIRE MESO 4 SC** to actively growing weeds in tank mixture with burndown herbicides including: Helmsquat 3SL (EPA Reg. No. 74530-48, paraquat-dichloride), Gramoxone SL 2.0 (EPA Reg. No. 100-1431, paraquat-dichloride), and glyphosate products including: Helosate Plus Advance (EPA Reg. No. 74530-43), Touchdown Total (EPA Reg. No. 100-1169) or Touchdown HiTech (EPA Reg. No. 100-1182), Rely 280 (EPA Reg. No. 7969-448, glufosinate) or GoalTender (EPA Reg. No. 62719-447, oxyfluorfen) before weeds exceed 5 inches in height.

Subsequent application(s) of **AVALAIRE MESO 4 SC** can be made alone or in tank mixture, with the herbicides noted above, if weed emergence occurs.

Refer to individual product labels for precautionary statements, restrictions, rates, approved uses and a list of weeds controlled.

CROP USE DIRECTIONS – CRANBERRY

Apply **AVALAIRE MESO 4 SC** to bearing or non-bearing cranberry beds to control or suppress the weeds listed in Tables 1 and 2, and:

- bog St. John’s wort (*Hypericum boreale*)
- rushes (*Juncus canadensis, J. effuses, J. bufonulus, J. tenuis*)
- sedges spp. (*Carex* spp.)
- silverleaf (*Potentilla pacifica*)
- yellow loosestrife (*Lysimachia terrestris*)

RESTRICTIONS for Bearing/Non-Bearing Application Rates:

- Apply up to 8 fl. oz./A (0.25 lb. AI/A) in a single application, but **DO NOT** apply more than 16 fl. oz./A (0.5 lb. AI/A) in total per year.
- **DO NOT** make more than two applications per year.
- If two applications are made, **DO NOT** make them closer than 14 days apart. Use 1% v/v of a crop oil concentrate (COC) or 0.25% v/v non-ionic surfactant (NIS).
- **DO NOT** use COC adjuvants that are known to injure cranberry leaves.
- **Non-bearing Cranberries:** Apply after the bud break stage no less than 45 days before flooding in fall or winter.
- **Bearing Cranberries:** Apply after the bud break stage no less than 45 days before flooding or harvest.

AVALAIRE MESO 4 SC can be applied through irrigation systems (chemigation) including center pivot or solid set.

Cranberry Restrictions:

- **DO NOT** make more than two applications of **AVALAIRE MESO 4 SC** per year.
- **DO NOT** apply more than 8.0 fl. oz./A (0.25 lb. AI/A) in a single application.

- **DO NOT** apply more than 16.0 fl. oz./A (0.5 lb. AI/A) per year.
- If two applications are made, they must be made no closer than 14 days apart.

Sprinkler Irrigation Application – Cranberries Only

Check the irrigation system to ensure uniform application of water to all areas. Thorough coverage of foliage is required for optimal control. Maintain good agitation in the pesticide supply tank prior to and during the entire application process. Inject the specified rate of **AVALAIRE MESO 4 SC** into the irrigation system with a metering device designed to introduce a constant flow and that will distribute the product to target areas in 0.1-0.2 acre-inch of water. Use the least amount of water with this rate range required for proper distribution and coverage.

After application is complete, flush the entire irrigation and injection systems with clean water before stopping the system. If application is being made during a normal irrigation set of a stationary sprinkler, the specified rate of **AVALAIRE MESO 4 SC** the area covered needs to be injected into the system only during the end of the irrigation set for sufficient time to provide optimal coverage and distribution.

CHEMIGATION USE PRECAUTIONS – SPRINKLER IRRIGATION APPLICATION

Apply this product through center pivot or solid set sprinkler irrigation systems only. **DO NOT apply this product through any other type of irrigation system.**

Non-uniform distribution of treated water can cause crop injury, product ineffectiveness, and/or illegal pesticide residues in the crop. Contact State Extension Service Specialists, equipment manufacturers or other experts if you have questions about calibrating equipment.

DO NOT connect an irrigation system or greenhouse system used for pesticide application to any public water system. A public water system is any system used for 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 out of the year. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible personal shall shut the system down and make necessary adjustments if 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 back-flow. The pesticide injection pipeline must 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 pressure decreases to the point where pesticide distribution is adversely affected. Systems must also use a metering pump, including a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and are capable of being fitted with a system interlock.

Any alternatives to the above required safety devices must conform to the list of EPA approved alternative devices.

CHEMIGATION USE RESTRICTIONS – SPRINKLER IRRIGATION APPLICATION

- **DO NOT** apply this product through any other type of irrigation system.
- **DO NOT** apply when wind speed favors drift beyond the area intended for treatment or non-uniform distribution of treated water.
- **DO NOT** apply directly to water or areas where surface water is present outside the bog system.
- **DO NOT** contaminate water when disposing of equipment washwater or rinsate.
- **DO NOT** apply within 10 feet of surface water outside the bog system.
- **DO NOT** spray to runoff.

CROP USE DIRECTIONS – FLAX

AVALAIRE MESO 4 SC may be applied pre-emergence in flax, i.e., after planting but before crop emergence, at a rate up to 6 fl. oz./A (0.19 lb. AI/A). For a list of weeds controlled see Tables 1 and 2. **DO NOT** apply more than one application, and not more than 6 fl. oz./A (0.19 lb. AI/A), per year in flax. If weeds are emerged at the time of application, the use of a crop oil concentrate (COC) type adjuvant at the rate of 1% v/v is advised. In addition, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% (v/v) or AMS at the rate of 8.5 lbs./100 gals. of spray solution may be added to improve the burndown of existing weeds. Applications of **AVALAIRE MESO 4 SC** to emerged flax can result in severe crop injury.

Flax Restrictions:

- **DO NOT** make more than one application of **AVALAIRE MESO 4 SC** per year.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. AI/A) in a single application.
- **DO NOT** apply **AVALAIRE MESO 4 SC** more than 6.0 fl. oz./A (0.19 lb. AI/A) per year.

CROP USE DIRECTIONS – OATS

AVALAIRE MESO 4 SC can be applied pre-emergence or post-emergence (but not both) for weed control in oats.

For pre-emergence control or partial control of the weeds listed in Table 2, apply **AVALAIRE MESO 4 SC** broadcast at a rate of 6.0 fl. oz./A (0.19 lb. AI/A) prior to oat emergence. For best pre-emergence weed control, the **AVALAIRE MESO 4 SC** application must be made prior to weed emergence.

For post-emergence (after oat emergence) control or partial control of the weeds listed in Table 1, apply **AVALAIRE MESO 4 SC** at a rate of 3.0 fl. oz./A (0.094 lb. AI/A). For best results, **AVALAIRE MESO 4 SC** must be applied to emerged weeds that are less than 5" tall. Post-emergence applications of **AVALAIRE MESO 4 SC** may result in temporary injury of the oat crop. Injury symptoms may include leaf bleaching, leaf burn and in extreme conditions, stunting.

If emerged weeds are present at the time of the **AVALAIRE MESO 4 SC** application, the addition of a crop oil concentrate (COC) type adjuvant at a rate of 1% v/v or a non-ionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v is advised. In addition to COC or NIS, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v or ammonium sulfate (AMS) at the rate of 8.5 lbs./100 gallons of spray solution may be added for improved weed control. If emerged weeds are not present at the time of the **AVALAIRE MESO 4 SC** application, no additives are advised. If oat injury is a concern, eliminating the use of UAN or AMS will reduce the risk for post-emergence crop injury. Additionally, the use of NIS instead of COC will also reduce the oat injury risk. However, weed control is also reduced if UAN or AMS is eliminated and when switching from COC to NIS.

Tank mixing other pesticides with **AVALAIRE MESO 4 SC** post-emergence may increase the risk of injury. Avoid adding pesticides with emulsifiable concentrate (EC) type formulations to **AVALAIRE MESO 4 SC** for applications made post-emergence to the crop.

Oat Restrictions:

- **DO NOT** graze or feed forage from treated areas within 30 days following an application of **AVALAIRE MESO 4 SC**
- **DO NOT** harvest oats within 50 days following the application of **AVALAIRE MESO 4 SC**.
- **DO NOT** make more than one application of **AVALAIRE MESO 4 SC** per year.
- **DO NOT** apply **AVALAIRE MESO 4 SC** pre-emergence (prior to oat emergence) at more than 6.0 fl. oz./A (0.19 lb. AI/A) per year.
- **DO NOT** apply **AVALAIRE MESO 4 SC** post-emergence at more than 3.0 fl. oz./A (0.094 lb. AI/A) per year.
- If the oat crop treated with **AVALAIRE MESO 4 SC** is lost or destroyed, oats may be replanted immediately. If **AVALAIRE MESO 4 SC** was applied to the lost oat crop, no additional **AVALAIRE MESO 4 SC** can be applied to the replanted oat crop.

CROP USE DIRECTIONS – OKRA

AVALAIRE MESO 4 SC can be applied as a row-middle or a hooded post-direct treatment (but not both) for weed control in okra.

Pre-Emergence Row-Middle Applications

Apply **AVALAIRE MESO 4 SC** at a rate of 6.0 fl. oz./A (0.19 lb. AI/A) as a banded application to the row middles prior to weed emergence. For this banded application, leave one foot of untreated area over the okra row or 6" to each side of the planted row. For banded applications, the application must be made to account for band width, i.e., to deliver 6.0 fl. oz. (0.19 lb. AI) per treated acre. **DO NOT** apply **AVALAIRE MESO 4 SC** directly over the planted okra row or severe crop injury may occur. Injury risk is greatest on coarse textured soils (sand, sandy loam or loamy sand).

Post-Emergence Hooded Applications

Apply **AVALAIRE MESO 4 SC** at a rate of 3.0 fl. oz./A (0.094 lb. AI/A) as a post-emergence directed application using a hooded sprayer for control or partial control of the weeds listed in Table 1. Okra must be at least 3" tall at the time of this application. It is advised that a non-ionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v be added to the spray solution. For post-emergence hooded applications, the spray equipment must be set up to minimize the amount of **AVALAIRE MESO**

4 SC that contacts the okra foliage or crop injury will occur. For best post-emergence results, **AVALAIRE MESO 4 SC** must be applied to actively growing weeds.

Okra Restrictions:

- **DO NOT** harvest okra within 28 days following the application of **AVALAIRE MESO 4 SC**.
- **DO NOT** make more than one application of **AVALAIRE MESO 4 SC** per year.
- **DO NOT** apply **AVALAIRE MESO 4 SC** as a row-middle application at more than 6.0 fl. oz. (0.19 lb. AI) per acre per year.
- **DO NOT** apply **AVALAIRE MESO 4 SC** as a post-directed application at more than 3.0 fl. oz. (0.094 lb. AI) per acre per year.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. AI/A) in a single application.
- **DO NOT** apply **AVALAIRE MESO 4 SC** as a broadcast pre-emergence or broadcast post-emergence application to okra or severe injury will occur.
- If the okra crop treated with **AVALAIRE MESO 4 SC** is lost or destroyed, okra can be replanted only in the soil band that was not treated with **AVALAIRE MESO 4 SC**.

CROP USE DIRECTIONS - PEARL MILLET

AVALAIRE MESO 4 SC may be applied pre-emergence in pearl millet, i.e., after planting but before crop emergence, at a rate up to 6 fl. oz./A (0.19 lb. AI/A). For a list of weeds controlled see Table 2. **DO NOT** apply more than one application, and not more than 6 fl. oz./A (0.19 lb. AI/A) per year in pearl millet. If weeds are emerged at the time of application, the use of a crop oil concentrate (COC) type adjuvant at the rate of 1% v/v is advised. In addition, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% (v/v) or AMS at the rate of 8.5 lbs./100 gals. of spray solution may be added to improve the burndown of existing weeds. Applications of **AVALAIRE MESO 4 SC** to emerged pearl millet can result in severe crop injury.

Pearl Millet Restrictions:

- **DO NOT** make more than one application of **AVALAIRE MESO 4 SC** per year.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. AI/A) in a single application.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. AI/A) per year.

CROP USE DIRECTIONS – RHUBARB

AVALAIRE MESO 4 SC can be applied prior to crop emergence for weed control in established rhubarb.

Apply **AVALAIRE MESO 4 SC** at a rate of 6.0 fl. oz./A (0.19 lb. AI/A) to dormant (prior to any spring green-up) rhubarb for control or partial control of the weeds listed in Table 2. If weeds are emerged at the time of application, it is advised that a crop oil concentrate (COC) type adjuvant at 1% v/v or a non-ionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v be added to the spray solution. Applications of **AVALAIRE MESO 4 SC** to rhubarb that is not dormant may result in a temporary bleaching symptomology. Rainfall or irrigation after the **AVALAIRE MESO 4 SC** application may increase the risk of injury to emerging rhubarb.

Rhubarb Restrictions:

- **DO NOT** harvest rhubarb within 21 days following the application of **AVALAIRE MESO 4 SC**.
- **DO NOT** make more than one application of **AVALAIRE MESO 4 SC** per year.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. AI/A) in a single application.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. AI/A) per year.

CROP USE DIRECTIONS – SORGHUM (GRAIN and SWEET)

Pre-Emergence Application Directions

Make pre-emergence application of **AVALAIRE MESO 4 SC** or pre-plant non-incorporated applications up to 21 days before planting sorghum for control or partial control of the weeds listed in Table 2.

Apply 6.0-6.4 fl. oz./A (0.19-0.2 lb. AI/A) broadcast non-incorporated application prior to sorghum emergence. Making the application less than 7 days before planting will increase the risk of plant injury, especially if rainfall or irrigation occurs after the application. Injury symptoms include temporary bleaching of newly emerged leaves. Making application of this product 8- 21 days prior to planting will decrease risk of crop injury.

If **AVALAIRE MESO 4 SC** is applied prior to planting, minimize disturbance of soil treated with herbicide during the planting process in order to reduce the potential for weed emergence.

If emerged weeds are present at the time of pre-emergence application, use 0.25% v/v of a non-ionic surfactant (NIS) adjuvant or 1% v/v of crop oil concentrate (COC) and add it to the spray solution. A spray-grade UAN applied at a rate of 2.5% v/v or 8.5 lbs./100 gallons of spray solution of ammonium sulfate (AMS) can be added to the spray solution in addition to the COC or NIS.

Pre-Emergence Application Restrictions:

- **DO NOT** make more than one application of **AVALAIRE MESO 4 SC** per year.
- **DO NOT** apply more than 6.4 fl. oz./A (0.2 lb. AI/A) in a single application.
- **DO NOT** apply more than 6.4 fl. oz./A (0.2 lb. AI/A) per year.
- **DO NOT** apply to emerged sorghum or severe crop injury can occur.
- **DO NOT** use **AVALAIRE MESO 4 SC** in the production of forage sorghum, sudangrass, sorghum-sudangrass hybrids, or dual purpose sorghum.
- **DO NOT** apply to sorghum that is grown on coarse textured soils (e.g., sandy loam, loamy sand, sand).
- **Texas Restriction: DO NOT** apply to sorghum grown south of Interstate 20 (I-20) or east of Highway 277.

Post-Emergence Application Directions

Apply **AVALAIRE MESO 4 SC** post-directed to grain sorghum to control and/or partially control weeds listed in Table 1. Apply to actively growing weeds for optimal control.

Apply 3.0 fl. oz./A (0.094 lb. AI/A) post-directed application when sorghum is at least 8" tall. Make the application by directing the spray between crop rows, and toward the base of the plant. Direct application of **AVALAIRE MESO 4 SC** onto foliage can result in crop injury including temporary bleaching. If leaves do bleach, newly emerged leaves following application will not be affected.

Use 0.25% v/v of a non-ionic surfactant (NIS) adjuvant or 1% v/v of crop oil concentrate (COC) and add it to the spray solution. A spray-grade UAN applied at a rate of 2.5% v/v or 8.5 lbs./100 gallons of spray solution of ammonium sulfate (AMS) can be added to the spray solution in addition to the COC or NIS.

AVALAIRE MESO 4 SC can be tank-mixed with herbicides registered for use on sorghum to improve weed control. These tank-mixtures can also include a herbicide with a different mode of action to help control or manage the development of resistant weed biotypes.

Post-Directed Restrictions:

- **DO NOT** make more than one post-directed application per year.
- **DO NOT** apply more than 3.0 fl. oz./A (0.094 lb. AI/A) in a single post-directed application.
- **DO NOT** apply more than 6.4 fl. oz./A (0.2 lb. AI/A) per year.
- **DO NOT** apply broadcast over-the-top to emerged sorghum or severe crop injury can occur.
- **DO NOT** harvest sorghum for forage for 30 days following application.
- **DO NOT** harvest for grain or stover for 60 days following application.
- **DO NOT** apply after the sorghum seedhead emerges.
- **DO NOT** use in the production of forage sorghum, sudangrass, or sorghum-sudangrass hybrids.

CROP USE DIRECTIONS – SOYBEAN

AVALAIRE MESO 4 SC can be applied pre-emergence to mesotrione resistant soybeans. Applications to soybeans that are not designated as mesotrione resistant will result in significant crop injury.

Pre-Emergence Applications

For pre-emergence control of the weeds listed in Table 2, apply **AVALAIRE MESO 4 SC** prior to soybean emergence at a rate of 6.0 fl. oz./A (0.19 lb. AI/A). Apply the higher rate for longer residual control. **AVALAIRE MESO 4 SC** may be tank mixed with other registered soybean herbicides including S-Metolachlor and S-Metolachlor + Sodium salt of fomesafen. Refer to the tank mix partner label and follow all precautions and restrictions.

If weeds are emerged at the time of application, add either a non-ionic surfactant (NIS) at 1 qt./100 gallons (0.25% v/v) or a crop oil concentrate (COC) at 1 gallon/100 gallons (1% v/v). In addition to NIS or COC, it is also advised to add either ammonium sulfate (AMS) at 8.5-17 lbs./100 gallons (or equivalent).

Soybean Restrictions:

- Apply no more than 6.0 fl. oz./A (0.19 lb. AI/A) per year.
- **DO NOT** apply more than 6 fl. oz./A (0.19 lb. AI/A) in a single application.
- Make no more than one pre-emergence application per year.
- **DO NOT** apply to emerged soybeans.
- **DO NOT** graze or feed soybean forage or hay to livestock.

CROP USE DIRECTIONS – SUGARCANE

Apply **AVALAIRE MESO 4 SC** by ground for pre-emergence, post-emergence over-the-top or post-emergence direct weed control in sugarcane.

Apply **AVALAIRE MESO 4 SC** aerially for pre-emergence and post-emergence weed control in the states of: **Florida, Louisiana, and Texas.**

Pre-Emergence Applications

Apply 6.0-7.7 fl. oz./A (0.19-0.24 lb. AI/A) of **AVALAIRE MESO 4 SC** to control weeds listed in Table 2. Make application after the planting of plant-cane or after harvest of ratoon-cane. If weeds are emerged at the time of application, add a crop oil concentrate (COC) type adjuvant at 1% v/v OR a non-ionic surfactant (NIS) type adjuvant at 0.25% v/v to the spray solution. In addition to the COC or NIS, a spray grade UAN at a rate of 2.5% v/v OR ammonium sulfate (AMS) at a rate of 8.5 lbs./100 gals. of spray solution can be added to the spray solution. Tank mix Atrazine or Ametryn with **AVALAIRE MESO 4 SC** to improve weed control. Refer to the tank mix partner label for specific rates and use directions.

Post-Emergence Applications

Apply 3.0 fl. oz./A (0.94 lb. AI/A) of **AVALAIRE MESO 4 SC** to control weeds listed in Table 1. Apply as a post-over-the-top or as a post-directed spray to the base of the sugarcane. If a pre-emergence application was made earlier in the season, only one single post-emergence application can be made. If no pre-emergence application was made earlier in the season, then both a post-over-the-top and a post-directed spray application can be made. For optimum weed control, apply to actively growing weeds.

Add either a crop oil concentrate (COC) adjuvant at 1% v/v OR a non-ionic surfactant (NIS) adjuvant to the spray solution. In addition to the COC or NIS, use a spray grade UAN (e.g., 28-0-0) at 2.5% v/v OR ammonium sulfate (AMS) at 8.5 lbs./100 gals. of spray solution to improve weed control.

For additional post-emergence weed control, tank mix **AVALAIRE MESO 4 SC** with atrazine, Sodium salt of asulam and/or Trifloxysulfuron-Sodium. Refer to the tank mix product label for specific rate and use directions.

Sugarcane Restrictions:

- **DO NOT** apply more than 7.7 fl. oz./A (0.24 lb. AI/A) in a pre-emergence application.
- **DO NOT** apply more than 3.0 fl. oz./A (0.94 lb. AI/A) in a post-emergence application.
- **DO NOT** make more than 2 applications per year. If a pre-emergence application is made, only one post-emergence application can be made.
- Minimum retreatment interval is 14 days.
- **DO NOT** apply more than 10.7 fl. oz./A (0.33 lb. AI/A) per year.
- **DO NOT** harvest sugarcane within 114 days following a post-over-the-top treatment (114-day PHI).
- **DO NOT** harvest sugarcane with 100 days following a post-directed application (100-day PHI).

CROP USE DIRECTIONS – TURFGRASS

This product is applied pre-emergence and post-emergence to provide selective contact and residual control of Turfgrass weeds. When applied pre-emergence, weeds absorb this product during emergence from the soil. Pre-emergence activity may be reduced under dry conditions. Activate this product with 0.15 inch of irrigation if rain has not occurred within 10 days of application. When used post-emergence, this product is absorbed by susceptible weeds through foliar contact and soil absorption. Foliage of treated weeds cease to grow after application of this product, then turn white from loss of chlorophyll and die within three weeks. Make a repeat application after 2 to 3 weeks to improve post-emergence weed control. Add a nonionic surfactant (NIS) when making post-emergence applications.

This product may cause temporary whitening of Turfgrass foliage. Whitening typically occurs 5 to 7 days after application and lasts for several weeks. Repeat application to the same site causes less whitening of plant tissue.

This product controls weeds prior to and during seeding of certain Turfgrasses during Turf renovation (see “NEW SEEDINGS” section). If applied pre-emergence to established Turf, tank-mix this product with other pre-emergence herbicides including prodiamine (e.g., Barricade®, EPA Reg. No. 100-1139) or pendimethalin (e.g., Pin-Dee™ 3.3 T&O, EPA Reg. No. 19713-668) for longer residual and broad spectrum control.

PRECAUTIONS

- Residential Lawn Applications: Unless renovating and/or reseeding home lawns, avoid broadcast application of this product for pre-emergence and post-emergence weed control as undesirable whitening of some Turfgrasses may occur.
- Bentgrass, Bermudagrass, Kikuyugrass, *Poa annua*, Seashore paspalum and Zoysiagrass are sensitive to applications of this product. Avoid spraying these types of Turf unless control and/or injury can be resisted. Maintain a five foot buffer between treated areas and Bentgrass or *Poa annua* greens.
- To reduce movement into sensitive species including Bentgrass, keep people and pets off treated areas until spray has dried and irrigate lightly to move product from Turf foliage before resuming normal irrigation.
- Clean sprayer thoroughly after an application of this product if the same equipment is used to apply products to Bentgrass/*Poa annua* turf areas.
- Avoid over-spray or drift of spray applications onto ornamentals or flower beds and gardens. Roses and Daylilies are sensitive to this product.
- Avoid applications over-the-top of exposed roots of trees and ornamentals.

RESTRICTIONS

- **DO NOT** apply more than 16 fluid ounces of this product (0.5 lb. a.i.) per acre per year.
- **DO NOT** apply more than 8 fl oz. (0.25 lb a.i.) per acre in a single application. Refer to sections below for details on specific grasses.
- **DO NOT** apply more than 4 applications per acre per year when using the lowest rate.
- Minimum retreatment interval is 14 days.
- **DO NOT** use on golf course putting greens.
- **DO NOT** plant any crop other than Turfgrass species for 18 months after the last application of this product or injury may occur.
- **DO NOT** apply by air.
- **DO NOT** apply through any type of irrigation system.
- **DO NOT** use grass clippings from treated Turf as mulch around trees or in vegetable/flower gardens.
- **DO NOT** apply an organophosphate or carbamate insecticide within 7 days of application of this product as injury to Turf may occur.

TANK-MIXTURE

This product has been tested in many tank-mixtures with products containing atrazine (e.g., Atrazine 4L, EPA Reg. No. 19713-11), bentazon (e.g., Basagran, EPA Reg. No. 7969-45), carfentrazone (e.g., Quicksilver™, EPA Reg. No. 279-3301), dicamba (e.g., Vanguish®, EPA Reg. No. 100-884), fluroxpyr (e.g., Spotlight™, EPA Reg. No. 62719-586), prodiamine (e.g., Barricade, EPA Reg. No. 100-1139), simazine (e.g., Princep, EPA Reg. No. 100-526) and triclopyr (e.g., Turflon® ester, EPA Reg. No. 17545-8) for safety and efficacy on Turfgrasses. Apply this product at reduced rates (4 fl. ozs. of this product per acre) (0.125 lb a.i./A) if tank-mixed with atrazine, bentazon or simazine. Other tank-mixtures may be safe but has not been tested. Test on a small scale for compatibility, safety and efficacy before treating large areas if wanting to tank-mix this product with other herbicides.

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.

USE SITES

This product may be used in Turfgrasses species listed on this label in commercial and residential sites to control weeds. Use sites include noncrop areas including golf course, sod farms, athletic fields, parks, residential and commercial properties, cemeteries, airports and lawns.

DO NOT use on golf course putting greens and maintain a five foot buffer between treated areas and putting greens.

TURFGRASS SPECIES

This product has been tested on the following species of Turfgrass and found to be safe under trial conditions:

Turfgrass Species	Scientific Name	Fl. oz./A (lb a.i./A)
Buffalograss	<i>Buchloe dactyloides</i>	5 to 8 (0.155 – 0.25)
Centipedegrass	<i>Eremochloa ophiuroides</i>	5 to 8 (0.155 – 0.25)
Fine fescue* (Creeping red, Chewings and Hard)	<i>Festuca</i> spp.	5 (0.155)
Kentucky bluegrass	<i>Poa pratensis</i>	5 to 8 (0.155 – 0.25)
Perennial ryegrass*	<i>Lolium perenne</i>	5 (0.155)
St. Augustinegrass (grown for sod)	<i>Stenotaphrum secundatum</i>	4 (0.125)
Tall Fescue	<i>Festuca arundinacea</i>	5 to 8 (0.155 – 0.25)

*See additional instructions below.

WEEDS CONTROLLED

Common Name	Scientific Name	Pre-emergence ¹	Post-emergence ²
Barnyardgrass	<i>Echinochloa crus-galli</i>	Y	Y
Bentgrass, Creeping	<i>Agrostis stolonifera</i>	Y	Y
Bluegrass, Annual	<i>Poa annua</i>	Suppression	N
Buckhorn plantain	<i>Plantago lanceolata</i>	Y	Y
Buttercup	<i>Ranunculus sardous</i>	.3	Y
Carpetweed	<i>Mollugo verticillata</i>	Y	Y
Chickweed, Common	<i>Stellaria media</i>	Y	Y
Chickweed, Mouseear	<i>Cerastium vulgatum</i>	Y	Y
Clover, Large hop	<i>Trifolium aurem</i>	Y	Y
Clover, White	<i>Trifolium repens</i>	Y	Y
Crabgrass, Large	<i>Digitaria sanguinalis</i>	Y	Y ⁴
Crabgrass, Smooth	<i>Digitaria ischaemum</i>	Y	Y ⁴
Crabgrass, Southern	<i>Digitaria ciliaris</i>	Y	Y ⁴
Curly dock	<i>Rumex crispus</i>	-	Y
Dandelion, Catsear	<i>Hypochoeris radicata</i>	-	Y
Dandelion, Common	<i>Taraxacum officinale</i>	-	Y
Florida betony	<i>Stachys floridana</i>	-	Y
Florida pusley	<i>Richardia scabra</i>	-	Y
Foxtail, Yellow	<i>Setaria glauca</i>	Y	Y
Galinsoga	<i>Galinsoga ciliata</i>	Y	Y
Goosegrass	<i>Eleusine indica</i>	-	Y ⁴
Ground ivy	<i>Glechoma hederacea</i>	-	Y
Healall	<i>Prunella vulgaris</i>	-	Y
Henbit	<i>Lamium amplexicaule</i>	-	Y
Lambsquarters, Common	<i>Chenopodium album</i>	Y	Y
Lawn burweed	<i>Soliva sessilis</i>	-	Y
Lovegrass, Tufted	<i>Eragrostis pectinacea</i>	-	Y
Marestail	<i>Conyza canadensis</i>	-	Y
Nimblewill	<i>Muhlenbergia schreberi</i>	-	Y
Nutsedge, Yellow	<i>Cyperus esculentus</i>	-	Y
Oxalis	<i>Oxalis stricta</i>	-	Y
Pigweed, Redroot	<i>Amaranthus retroflexus</i>	Y	Y

Pigweed, Smooth	<i>Amaranthus hybridus</i>	Y	Y
Purslane, Common	<i>Portulaca oleracea</i>	Y	Y
Shepherd's purse	<i>Capsella bursa-pastoris</i>	Y	Y
Smartweed, Pale	<i>Polygonum lapathifolium</i>	Y	Y
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	Y	Y
Speedwell, Persian	<i>Veronica persica</i>	Y	-
Speedwell, Purslane	<i>Veronica peregrina</i>	Y	-
Sowthistle	<i>Sonchus oleraceus</i>	-	Y
Swinecress	<i>Coronopus didymus</i>	-	Y
Thistle, Canada	<i>Cirsium arvense</i>	-	Y
Verbena	<i>Verbena hastata</i>	-	Y
Wild carrot	<i>Daucus carota</i>	Y	Y
Wild Violet	<i>Viola pranticola</i>	-	Y
Windmillgrass	<i>Chloris verticillata</i>	-	Y

¹For broad spectrum pre-emergence activity, apply with a grass pre-emergence herbicide including prodiamine (e.g., Barricade, EPA Reg. No. 100-1139) except when used for weed control in new seedings.

²Weed control with post-emergence applications require a second application after 2 to 3 weeks. Apply to young, actively growing weeds with nonionic type of surfactant.

³Not tested.

⁴For best post-emergence control, apply at less than 4 tiller Crabgrass and Goosegrass.

APPLICATION INSTRUCTIONS

PRE-EMERGENCE APPLICATION

Apply this product at 4 to 8 fluid ounces per acre (0.125 – 0.25 lb a.i./A) in at least 30 gallons of water prior to weed seed germination.

DO NOT exceed 5 fluid ounces per acre (0.155 lb a.i./A) per application to Perennial ryegrass or Fine fescues or mixed stands that contain greater than 50% Perennial ryegrass and/or Fine fescue.

DO NOT exceed 4 fluid ounces per acre (0.125 lb a.i./A) to St. Augustinegrass sod. Make application close to anticipated weed seed germination.

Combine this product with a pre-emergence herbicide including prodiamine (e.g., Barricade, EPA Reg. No. 100-1139) for extended control of key annual monocot weeds including Crabgrass and Foxtail. In established Turf, this product is more effective as a post-emergence application unless combined with another soil active herbicide.

NEW SEEDINGS / NEW LAWN ESTABLISHMENT

Apply this product at 5 to 8 fluid ounces per acre (0.155 – 0.25 lb a.i./A) in at least 30 gallons of water prior to seeding or post seeding of resistant Turfgrass species listed on this label, except Fine fescue. This product may reduce density of Fine fescue seedings. This product can be used on grass seed blends that contain less than 20% by weight of Hard or Fine fescue. This product will control many monocot and dicot weeds that compete with and slow the establishment of the Turfgrass stands. For best results, apply at grass seeding or close to seeding. Avoid spraying on newly germinated Turfgrass plants. Before making a post-emergence application, wait until the newly germinated Turf has been mowed two times or four weeks after emergence (whichever is longer).

POST-EMERGENCE APPLICATION

Apply this product at 4 to 8 fluid ounces per acre (0.125 – 0.25 lb a.i./A) in at least 30 gallons of water. Apply with a nonionic type of surfactant. A repeat application at two to three weeks may be required for adequate weed control. Weed control is most effective on young, actively growing weeds. Efficacy will be reduced under moisture stress or from applications to mature weeds.

CONTROL OF BENTGRASS AND NIMBLEWILL

Apply this product at 5 fluid ounces per acre (0.155 lb a.i./a) in at least 30 gallons of water at two to three week intervals for up to three applications. Apply with a nonionic type of surfactant.

Bentgrass control may be more effective in the late Summer/early Fall just before onset of renewed Bentgrass growth than Spring/early Summer applications.

On St. Augustinegrass (sod uses only) and Centipedegrass, if this product is tank-mixed with atrazine or simazine, **DO NOT** exceed 4 fluid ounces of this product (0.125 lb a.i.) and 0.5 pound atrazine or simazine per acre. Apply the tank-mixture to established Turf only. 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.

DORMANT BERMUDAGRASS APPLICATIONS ONLY

Apply this product at 5 fluid ounces per acre (0.155 lb a.i./A) to control Winter weeds listed in the "WEEDS CONTROLLED" table on dormant Bermudagrass. Repeat application in two to three weeks. Applications made to semi-dormant Turf will cause whitening of the Bermudagrass.

SPOT APPLICATION OF THIS PRODUCT

Spray Mix	Rate of This Product	Nonionic Surfactant (NIS)
2 gals.	1 tsp.	3 tsps.

Apply the spray mix at 1 gallon per 1,000 square feet.

DO NOT apply more than 16 fluid ounces of this product (0.5 lb. a.i.) per acre per year.

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep container tightly closed when not in use. Keep away from heat and flame. Do not store near seed, fertilizers, or foodstuffs. Can be stored at temperatures as low as minus 20°F. Keep away from heat and flame.

Pesticide Disposal: Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Open dumping is prohibited.

[Container Handling ≤ 5 Gallons: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drop. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

[Container Handling > 5 Gallons: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.]

[Refillable Containers: Refillable container. Refill this container with pesticide only. Do not use this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

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 Avalaire, LLC. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, Avalaire, LLC 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 Avalaire, LLC, 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.

[AVALAIRE MESO 4 SC] is a trademark of Avalaire, LLC.

Agrisure® and the Syngenta logo are trademarks of Syngenta Group Company.

LibertyLink® is a trademark of Bayer CropScience.

Clearfield® is a trademark of BASF Corporation.

Roundup Ready® is a trademark of Monsanto Company.

{LANGUAGE ON LABEL AFFIXED TO CONTAINER}

MESOTRIONE	GROUP	27	HERBICIDE
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AVALAIRE MESO 4 SCTM

[Alternate Brand Name: BeQuest 4 SC]

ACTIVE INGREDIENT:	(% by weight)
Mesotrione: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione	40.0%
OTHER INGREDIENTS:	60.0%
TOTAL:	100.0%

Contains 4 lbs. Mesotrione per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

Reformulation is prohibited. See individual container labels for repackaging limitations.

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

FIRST AID	
If on skin:	<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.
HOT LINE 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 SafetyCall at 1-844-685-9173 for emergency medical treatment information.	

For Chemical Emergency

Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

ENVIRONMENTAL HAZARDS:

Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

Surface Water Advisory

This product may contaminate water through drift or spray in wind. This product has a high potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep container tightly closed when not in use. Keep away from heat and flame. Do not store near seed, fertilizers, or foodstuffs. Can be stored at temperatures as low as minus 20°F. Keep away from heat and flame.

Pesticide Disposal: Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Open dumping is prohibited.

[Container Handling ≤ 5 Gallons: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for late use or disposal. Drain for 10 seconds after the flow begins to drop. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

[Container Handling > 5 Gallons: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.]

[Refillable Containers: Refillable container. Refill this container with pesticide only. Do not use this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

See inside label booklet for additional Precautionary Statements and Directions for Use.

Manufactured for:
Avalaire, LLC
 1204 Village Market Place, #173
 Morrisville, NC 27560

EPA Reg. No. 93930-XX
EPA Est. No. _____

NET WEIGHT:

[Sublabel B (Pages 21-28):] Provides Selective and Residual Control of Weeds in Ornamental Turfgrasses

MESOTRIONE GROUP 27 HERBICIDE

AVALAIRE MESO 4 SCTM

Active Ingredient:	By Weight
Mesotrione: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione	40.0%
Other Ingredients:	<u>60.0%</u>
TOTAL:	100.0%

Contains 4 lbs. Mesotrione per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

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

See inside label booklet for additional Precautionary Statements and Directions for Use.

FIRST AID	
If on skin:	<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.
HOT LINE 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 SafetyCall at 1-844-685-9173 for emergency medical treatment information.	

**For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada:
1-800-424-9300 or +1 703-527-3887 (collect calls accepted)**

EPA Reg. No.: 93930-XX

EPA Est. No.: _____

Net Contents: _____

Manufactured for:
Avalaire, LLC
1204 Village Market Place, #173
Morrisville, NC 27560

PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals
CAUTION

Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Personal Protection Equipment (PPE)

Applicators and Other Handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove and wash contaminated clothing before reuse.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Engineering Control Statements

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Environmental Hazards

Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

Surface Water Advisory

This product may contaminate water through drift or spray in wind. This product has a high potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

Physical and Chemical Hazards

Do not use or store near heat or open flame. Do not use with or store near any oxidizing or reducing agents. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

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

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

AGRICULTURAL USE REQUIREMENTS

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is:

- coveralls
- shoes plus socks
- chemical-resistant gloves

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard, 40 CFR Part 170. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, and greenhouses.

DO NOT enter treated areas without protection clothing until sprays have dried.

AVALAIRE MESO 4 SC is applied pre- and post-emergence to provide selective contact and residual control of turfgrass weeds. If applied pre-emergence, it is absorbed when emerging from the soil. Pre-emergence activity and control is reduced under dry conditions. Activate **AVALAIRE MESO 4 SC** with 0.15 inches of irrigation if rain hasn't fallen within 10 days of application. Post-emergent control is obtained by absorption into the soil and contact with foliage. Growth ceases post-application, weeds turn white from chlorophyll loss, and will die within three weeks. Make a repeat application after 2-3 weeks to improve post-emergence weed control. Add a non-ionic surfactant when making post-emergence applications.

Turfgrass color can temporarily become white during treatment. Whitening typically occurs 5-7 days post-application and lasts for several weeks. A second application to the same site will cause less whitening of plant tissue.

AVALAIRE MESO 4 SC controls weeds prior to and during seeding of certain turfgrasses during turf renovation (see **New Seedings**). If making pre-emergence application to established turf, tank mix **AVALAIRE MESO 4 SC** with other pre-emergence herbicides including Barricade® 65WG (EPA Reg. No. 100-834, prodiamine) for longer residual and broad spectrum control.

MANDATORY SPRAY DRIFT MANAGEMENT

Ground Applications

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- For all applications, applicators are required to use a Coarse or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

Spray Drift Advisories

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.

BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size - Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

BOOM HEIGHT - Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

WINDBLOWN SOIL PARTICLES

AVALAIRE MESO 4 SC has the potential to move off-site due to wind erosion. Soils that are subject to wind erosion usually have a high silt and/or fine to very fine sand fractions and low organic matter content. Other factors which can affect the movement of windblown soil include the intensity and direction of prevailing winds, vegetative cover, site slope, rainfall, and drainage patterns. Avoid applying **AVALAIRE MESO 4 SC** if prevailing local conditions may be expected to result in off-site movement.

Approved Use Sites

AVALAIRE MESO 4 SC can be applied to commercial and residential turfgrasses. Non-crop area use sites include golf courses, sod farms, athletic fields, parks, residential and commercial properties, cemeteries, airports, and lawns.

Turfgrass Use Precautions:

Apply **AVALAIRE MESO 4 SC** at reduced rates of 4 fl. oz./A (0.125 lb. AI/A) or less if tank mixing with atrazine, bentazon, or simazine. Before tank mixing **AVALAIRE MESO 4 SC** with other herbicides, conduct a compatibility, safety, and efficacy test before treating larger areas. See tank mix partner labels for directions and precautions. The most restrictive directions apply.

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.

Thoroughly clean application equipment after use to avoid injury to sensitive plants.

To avoid injury to sensitive species, keep traffic out of treated areas until sprays have dried; irrigate soil lightly to move **AVALAIRE MESO 4 SC** from turf foliage before resuming normal irrigation.

Turfgrass Use Restrictions:

- **DO NOT** overspray or allow spray to drift to ornamentals or flower beds and gardens. Roses and daylilies are particularly sensitive to **AVALAIRE MESO 4 SC**.
- **DO NOT** apply more than 8 fl. oz./A (0.125 lb. AI/A) in a single application.
- **DO NOT** apply more than 16 oz. (or 0.50 lb. mesotrione per acre per year) per acre per year.
- **DO NOT** make more than 4 applications of **AVALAIRE MESO 4 SC** per year when using reduced application rates.
- If multiple applications are made, they must be made no closer than 14 days apart.
- **DO NOT** plant any crop other than turfgrass for 18 months post-application of **AVALAIRE MESO 4 SC** to avoid turfgrass injury.
- **DO NOT** apply organophosphate or carbamate insecticides within 7 days of applying **AVALAIRE MESO 4 SC**.
- **DO NOT** apply **AVALAIRE MESO 4 SC** through any type of irrigation system.
- **DO NOT** make aerial applications.
- **DO NOT** use treated clippings to mulch trees or vegetable/flower gardens.
- **DO NOT** apply this product on Bentgrass, *Poa annua*, kikuyugrass, zoysiagrass seashore paspalum, and bermudagrass plant injury is unacceptable. Maintain a 5-foot buffer between treated areas and bentgrass or *Poa annua* greens.
- **DO NOT** apply over the top of exposed roots of trees and ornamentals.
- **DO NOT** use on golf course putting greens; maintain a minimum of a 5-foot buffer between putting greens and treated areas.
- Residential Lawns: **DO NOT** make broadcast applications for pre- and post-emergent weed control unless the home lawn is being reseeded and/or renovated as whitening of some turfgrasses may occur.

Resistant Turfgrass Species

The grasses listed below are resistant to AVALAIRE MESO 4 SC at the specified rates.

Species	Application Rate (Fl. Oz. per Acre)
Kentucky bluegrass (<i>Poa pertensis</i>) Centipedegrass (<i>Eremochloa ophiuroides</i>) Buffalograss (<i>Buchloe dactyloides</i>) Tall fescue (<i>Festuca arundinacea</i>)	5-8 (0.155-0.25 lb. AI/A)
Perennial ryegrass* (<i>Lolium perenne</i>) Fine fescue* (creeping red, chewings and hard) <i>Festuca</i> spp.	5 (0.155 lb. AI/A)
St. Augustinegrass* (grown for sod) (<i>Stenotaphrum secundatum</i>)	4 (0.125 lb. AI/A)

*See additional rate instructions below.

RESISTANCE MANAGEMENT

There is no known resistance to **AVALAIRE MESO 4 SC** and no known instances of cross-resistance between the active ingredient in **AVALAIRE MESO 4 SC** (mesotrione, a Group 27 HPPD inhibitor) and other classes of herbicides. **DO NOT** apply less than the specified label instructions and rotate to a herbicide product with a different mode of action to prevent the occurrence of weed resistance, and the maximum number of applications and/or rate of product has been met and weeds are not controlled.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

To minimize the occurrence of resistant biotypes, observe the following weed management practices:

- Scout application site before and after herbicide applications.
- Start with a clean application site, using either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small.
- Add other herbicides (e.g. a selective and/or a residual herbicide) and cultural practices (e.g. tillage or crop rotation) where appropriate.
- Utilize the specified label rate for the most difficult to control weed in your field. Avoid tank mixtures with other herbicides that reduce this product's efficacy (through antagonism), or tank mixture directions that encourage application rates of this product below the label directions.
- Control weed escapes and prevent weeds from setting seeds.
- Clean equipment before moving from field to field to minimize the spread of weed seed or plant parts.
- Report any incidence of repeated non-performance of this product on a particular weed to local extension specialists, certified crop advisors, or your Avalaire, LLC representative.
- Contact your local sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of actions for each target weed.

APPLICATION INSTRUCTIONS

Pre-Emergence Applications:

Apply 4-8 fl. oz. (0.155-0.25 lb. AI) of **AVALAIRE MESO 4 SC** per acre in at least 30 gallons of water per acre before seeds germinate and as close to seed germination as possible. Combine this product with another pre-emergence herbicide including Barricade 65WG (EPA Reg. No. 100-834, proflam) for extended control of crabgrass and foxtail.

Pre-Emergence Application Precautions:

AVALAIRE MESO 4 SC is most effective on established turf when applied post-emergence unless it is combined with another soil active herbicide.

Pre-Emergence Application Restrictions:

- **DO NOT** exceed 5 fl. oz. (0.155 lb. AI) per acre per application to perennial ryegrass, fine fescues, or mixed stands that consist of >50% perennial ryegrass and/or fine fescue.
- St. Augustinegrass sod: **DO NOT** exceed 4 fl. oz. (0.125 lb. AI) per acre.

Application to New Seedings/New Lawns

Apply 5-8 fl. oz. (0.155-0.25 lb. AI) **AVALAIRE MESO 4 SC** per acre in at least 30 gallons of water per acre before seeding or after seeding of turfgrass species listed below, except fine fescue, as application to fine fescue can reduce grass density. **AVALAIRE MESO 4 SC** can be effectively used on grass seed blends that contain <20% by weight hard/fine fescue. For optimal control, apply at grass seeding or as close to seeding as possible.

New Seedings/New Lawns Restrictions:

- **DO NOT** spray on newly germinated turfgrass. Delay treatment until grass has been mowed 2-4 times and/or 4 weeks after emergence (whichever is longer).

Post-Emergence Application Instructions:

Apply 4-8 fl. oz. (0.125-0.25 lb. AI) of **AVALAIRE MESO 4 SC** per acre in at least 30 gallons of water per acre with a NIS surfactant. Make a repeat application 2-3 weeks later for optimal weed control. Apply to young, actively growing weeds.

Post-Emergence Application Precautions:

Moisture stress and application to mature weeds can reduce herbicide efficacy.

Bentgrass (*Agrostis* spp.)/Nimbleweed (*Muhlenbergia schreberi*) Treatment:

Apply 5 fl. oz. (0.155 lb. AI) **AVALAIRE MESO 4 SC** per acre in at least 30 gallons of water per acre combined with a NIS surfactant at 2-3 week intervals for a maximum of 3 applications. For optimal weed control, apply in late summer/early fall just prior to new growth.

St. Augustinegrass (Sod uses only) and Centipedegrass Treatment:

Apply to established turf ONLY.

St. Augustinegrass (Sod uses only) and Centipedegrass Restrictions:

- **DO NOT** exceed 4 fl. oz. (0.125 lb. AI) **AVALAIRE MESO 4 SC** per application if tank mixing with Atrazine or Simazine.
- **DO NOT** exceed 0.5 lb. atrazine or simazine active ingredient. See atrazine/simazine labels for precautions and restrictions.

Dormant Bermudagrass Application only:

Apply 5 fl. oz. (0.155 lb. AI) per acre of **AVALAIRE MESO 4 SC** to control winter weeds listed in the **Weeds Controlled** table below. Make a repeat application 2-3 weeks later. Application of **AVALAIRE MESO 4 SC** to semi-dormant turf will cause bermudagrass whitening.

Spot Applications of this product

Spray Mix	Application Rate	Rate of this product	Rate of NIS adjuvant
2 gallons	1 gallon per 1,000 sq. ft.	1 teaspoon	3 teaspoons

Spot Application Restrictions:

- **DO NOT** apply more than 16 oz. (0.25 lb. AI) of **AVALAIRE MESO 4 SC** per acre per year.

WEEDS CONTROLLED USING PRE-EMERGENCE APPLICATION

Apply **AVALAIRE MESO 4 SC** with a grass pre-emergence herbicide including Barricade 65WG Herbicide (EPA Reg. No. 100-834, proflaminate), except when used to control weeds in new seedings. **AVALAIRE MESO 4 SC** will control the following weeds using pre-emergence application:

Common Name	Scientific Name
Barnyardgrass	<i>Echinochloa crusgalli</i>
Bentgrass (Creeping)	<i>Agrostis stolonifera</i>
Bluegrass (Annual)*	<i>Poa annua</i> *
Buckhorn Plantain	<i>Plantago lanceolata</i>
Carpetweed	<i>Mollugo verticillata</i>
Chickweed (Common)	<i>Stellaria media</i>
Chickweed (Mouseear)	<i>Cerastium vulgatum</i>
Clover (Large Hop)	<i>Trifolium aureum</i>
Clover (White)	<i>Trifolium repens</i>
Crabgrass (Large)	<i>Digitaria sanguinalis</i>
Crabgrass (Smooth)	<i>Digitaria ischaemum</i>
Crabgrass (Southern)	<i>Digitaria ciliaris</i>
Foxtail (Yellow)	<i>Setaria glauca</i>
Galinsoga	<i>Galinsoga ciliate</i>
Lambsquarters	<i>Chenopodium album</i>
Pigweed (Redroot)	<i>Amaranthus retroflexus</i>
Pigweed (Smooth)	<i>Amaranthus hybridus</i>
Purslane (Common)	<i>Portulaca oleracea</i>
Shepherd's purse	<i>Capsella bursa-pastoris</i>
Smartweed (Pale)	<i>Polygonum lapathifolium</i>
Smartweed (Pennsylvania)	<i>Polygonum pensylvanicum</i>
Speedwell (Persian)	<i>Veronica persica</i>
Speedwell (Purslane)	<i>Veronica peregrina</i>
Wild Carrot	<i>Daucus carota</i>

*Suppression only.

WEEDS CONTROLLED USING POST-EMERGENCE APPLICATION

Make a second application of **AVALAIRE MESO 4 SC** 2-3 weeks after initial treatment. For optimal control add a NIS-type surfactant and apply to young, actively growing weeds. **AVALAIRE MESO 4 SC** will control the following weeds using post-emergence application:

Common Name	Scientific Name
Barnyardgrass	<i>Echinochloa crusgalli</i>
Bentgrass (Creeping)	<i>Agrostis stolonifera</i>
Buckhorn Plantain	<i>Plantago lanceolata</i>
Carpetweed	<i>Mollugo verticillata</i>
Chickweed (Common)	<i>Stellaria media</i>
Chickweed (Mouseear)	<i>Cerastium vulgatum</i>
Clover (Large Hop)	<i>Trifolium aureum</i>
Clover (White)	<i>Trifolium repens</i>
Crabgrass (Large)*	<i>Digitaria sanguinalis*</i>
Crabgrass (Smooth)*	<i>Digitaria ischaemum*</i>
Crabgrass (Southern)*	<i>Digitaria ciliaris*</i>
Curly dock	<i>Rumex crispus</i>
Dandelion (Catsear)	<i>Hypochoeris radicata</i>
Dandelion (Common)	<i>Taraxacum officinale</i>
Florida Betony	<i>Stachys floridana</i>
Florida Pusley	<i>Richardia scabra</i>
Foxtail (Yellow)	<i>Setaria glauca</i>
Galinsoga	<i>Galinsoga ciliate</i>
Goosgrass*	<i>Eleusine indica*</i>
Ground Ivy	<i>Glechoma hederacea</i>
Healall	<i>Prunella vulgaris</i>
Henbit	<i>Lamium amplexicaule</i>
Lambsquarters (Common)	<i>Chenopodium album</i>
Lawn Burweed	<i>Soliva sessilis</i>
Lovegrass (Tufted)	<i>Eragrostis pectinacea</i>
Marestail	<i>Conyza Canadensis</i>
Nimblewill	<i>Muhlenbergia schreberi</i>
Nutsedge (Yellow)	<i>Cyperus esculentus</i>
Oxalis	<i>Oxalis stricta</i>
Pigweed (Redroot)	<i>Amaranthus retroflexus</i>
Pigweed (Smooth)	<i>Amaranthus hybridus</i>
Purslane (Common)	<i>Portulaca oleracea</i>
Shepherd's Purse	<i>Capsella bursa-pastoris</i>
Smartweed (Pale)	<i>Polygonum lapathifolium</i>
Smartweed (Pennsylvania)	<i>Polygonum pennsylvanicum</i>
Sowthistle	<i>Sonchus oleraceus</i>
Swinecress	<i>Coronopus didymus</i>
Thistle (Canada)	<i>Cirsium arvense</i>
Verbena	<i>Verbena hastata</i>
Wild Carrot	<i>Daucus carota</i>
Wild Violet	<i>Viola pratensis</i>
Windmillgrass	<i>Chloris verticillata</i>

*For optimal control, apply to less than 4 tiller crabgrass and goosegrass.

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep container tightly closed when not in use. Keep away from heat and flame. Do not store near seed, fertilizers, or foodstuffs. Can be stored at temperatures as low as minus 20°F. Keep away from heat and flame.

Pesticide Disposal: Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Open dumping is prohibited.

[Container Handling ≤ 5 Gallons: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drop. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

[Container Handling > 5 Gallons: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.]

[Refillable Containers: Refillable container. Refill this container with pesticide only. Do not use this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

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 Avalaire, LLC. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, Avalaire, LLC 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 Avalaire, LLC, 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.

AVALAIRE MESO 4 SC is a trademark of Avalaire, LLC.

{LANGUAGE ON LABEL AFFIXED TO CONTAINER}

AVALAIRE MESO 4 SC^[TM]

Active Ingredient: (% By Weight)

By Weight

Mesotrione: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione	40.0%
Other Ingredients:.....	60.0%
TOTAL:	100.0%

Contains 4 lbs. Mesotrione per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

Reformulation is prohibited. See individual container labels for repackaging limitations.

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

FIRST AID	
If on skin:	<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.
HOT LINE 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 SafetyCall at 1-844-685-9173 for emergency medical treatment information.	

For Chemical Emergency

Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

ENVIRONMENTAL HAZARDS:

Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

Surface Water Advisory

This product may contaminate water through drift or spray in wind. This product has a high potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep container tightly closed when not in use. Keep away from heat and flame. Do not store near seed, fertilizers, or foodstuffs. Can be stored at temperatures as low as minus 20°F. Keep away from heat and flame.

Pesticide Disposal: Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Open dumping is prohibited.

[Container Handling ≤ 5 Gallons: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for late use or disposal. Drain for 10 seconds after the flow begins to drop. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

[Container Handling > 5 Gallons: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.]

[Refillable Containers: Refillable container. Refill this container with pesticide only. Do not use this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

See inside label booklet for additional Precautionary Statements and Directions for Use.

Manufactured for:
Avalaire, LLC
1204 Village Market Place, #173
Morrisville, NC 27560

EPA Reg. No. 93930-XX
EPA Est. No. _____

NET WEIGHT: