



## Emulsifiable Concentrate

Active Ingredient	By Weight
Quizalofop-P-ethyl	
Ethyl(R)-2-[4-(6-chloroquinoxalin-2-yloxy)-phenoxy]propionate .....	10.3%*
<b>Other Ingredients</b> .....	<b>89.7%</b>
<b>TOTAL</b> .....	<b>100.0%</b>

Contains petroleum distillates.  
\* Equivalent to 0.88 lb ai per gal

KEEP OUT OF REACH OF CHILDREN

DANGER – PELIGRO

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

FIRST AID	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>Immediately call a poison control center or doctor.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give any liquid to the person.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate the use of gastric lavage. Contains petroleum distillate. Vomiting may cause aspiration pneumonia.	
EMERGENCY INFORMATION	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR THE FOLLOWING EMERGENCIES, PHONE 24 HOURS A DAY: For Medical Emergencies phone:.....1-888-681-4261 For Transportation Emergencies, including spill, leak or fire, phone: CHEMTREC®.....1-800-424-9300 For Product Use Information phone: AMVAC®.....1-888-462-6822	

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Manufactured for:  
AMVAC Chemical Corporation  
4695 MacArthur Court, Suite 1200  
Newport Beach, CA 92660

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER! Causes irreversible eye damage. Harmful if swallowed, inhaled, or absorbed through the skin. Avoid contact with eyes, skin, or clothing. Avoid breathing vapor or spray mist.

### PERSONAL PROTECTIVE EQUIPMENT (PPE) Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves made of barrier laminate or Viton<sup>®</sup> ≥14 mils.
- Shoes plus socks.
- Protective eyewear.
- Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### ENGINEERING CONTROLS STATEMENT

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

#### USER SAFETY RECOMMENDATIONS USERS SHOULD:

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

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and invertebrates. 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 cleaning equipment or disposing of equipment washwaters or rinsate.

This product may contaminate water through drift of spray in wind. This product has a potential for runoff for several months or more after application. Poorly drained 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 the product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion practices will reduce this product's contribution to surface water contamination.

### PHYSICAL AND CHEMICAL HAZARDS

**Combustible. Keep away from heat, sparks, and open flames. Keep container closed**

### DIRECTIONS FOR USE

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

ASSURE II herbicide must be used only in accordance with the directions on this label, in separately issued labeling or exemptions under FIFRA (Supplemental Labels, Special Local Need registrations, FIFRA Section 18 exemptions, FIFRA 2(ee) Bulletins), or as otherwise permitted by FIFRA. Always read the entire label, including the Limitation of Warranty and Liability.

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.

Refer to sections on Agricultural Uses and Crop Specific Use Directions Table for crops excluded for use of Assure II in New York State.

#### **AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker protection Standard. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

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

- Coveralls.
- Chemical-resistant gloves, made of barrier laminate or Viton  $\geq$  14 mils
- Shoes plus socks.
- Protective eyewear.

#### **NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker protection Standard for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Weed control in "Non-Agricultural uses" is not within the scope of WPS. Keep unprotected persons out of treated areas until sprays have dried.

#### **ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY**

ASSURE II is a systemic herbicide that is rapidly absorbed by treated foliage and translocated to the roots and other growing points of the plant. When affected, younger plant tissues become chlorotic/necrotic and eventually die, leaving treated plants stunted and noncompetitive. In general, these symptoms are first observed within 7 to 14 days after application depending on the grass species treated and the environmental conditions.

The degree of control and duration of the effect of ASSURE II depend upon the rate used, weed spectrum, weed size and variability, growing conditions at and following treatment, soil moisture, precipitation, tank mixtures, and spray adjuvant used.

Conditions conducive to healthy, actively growing plants optimize the performance of ASSURE II. Unacceptable control may occur if ASSURE II is applied to grasses stressed from:

- abnormal weather (excessive heat or cold, or widely fluctuating temperatures),
- hail damage,
- drought,
- water saturated soils,
- mechanical injury, or
- prior herbicide injury.

Grasses under these conditions are often less susceptible to herbicide activity. Delay application until the stress passes and weeds and crop resume growth.

Allow the crop to fully recover and resume normal growth before applying ASSURE II to crops previously stressed or injured from other pesticide applications.

ASSURE II is rainfast 1 hour after application.

## APPLICATION INFORMATION

### USE RESTRICTIONS

- Do not feed forage, hay, or straw from treated areas to livestock unless stated otherwise under the specific crop use directions.
- Do not apply ASSURE II through any type of irrigation equipment.
- Do not contaminate any body of water.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas.

### IMPORTANT PRECAUTIONS

Injury to or loss of desirable trees, vegetation, or adjacent susceptible crops may result from failure to observe the following:

- Prevent drift of spray to desirable plants (refer to SPRAY DRIFT MANAGEMENT section of this label).
- Take all necessary precautions to avoid all direct or indirect contact (such as spray drift) with non-target plants or areas. Most grass crops, including wheat, barley, rye, oats, sorghum, rice, and corn are highly susceptible to ASSURE II.
- Carefully observe all sprayer cleanup instructions both prior to and after using this product, as spray tank residue may damage crops other than those included in the crop rotation section.

### WEED RESISTANCE MANAGEMENT

ASSURE II herbicide contains the active ingredient quizalofop-p-ethyl and is a group 1 herbicide based on the mode of action classification system of the Weed Science Society of America. Quizalofop-p-ethyl is in the class of herbicides known as aryloxyphenoxypropionates (FOPs) within the group 1 herbicides that inhibit the enzyme acetyl-CoA carboxylase (ACCase) in weeds.

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

Research has demonstrated that using full-labeled rates and directions for use is important to delay the selection for resistance.

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

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

- Scout fields before application to ensure herbicides and rates will be appropriate for the weed species and weed sizes present.
- Start with a clean field, using either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small (less than 4 inches).
- Apply full rates of ASSURE II herbicide for the most difficult to control weeds in the field at the specified time (correct weed size) to minimize weed escapes.
- Scout fields after application to detect weed escapes or shifts in control of weed species.
- Control weed escapes before they reproduce by seed or proliferate vegetatively.
- Report any incidence of non-performance of this product against a particular weed to your AMVAC representative, local retailer, or county extension agent.
- Contact your AMVAC 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 sites of actions for each target weed.
- If resistance is suspected, treat weed escapes with an herbicide having a site of action other than group 1 and/or use nonchemical methods to remove escapes, as practical, with the goal of preventing further seed production.
- Suspected herbicide-resistant weeds may be identified by these indicators:
  - Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
  - A spreading patch of non-controlled plants of a particular weed species; and
  - Surviving plants mixed with controlled individuals of the same species

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

- Use a broad-spectrum soil-applied herbicide with other sites of action as a foundation in a weed control program.
- Utilize sequential applications of herbicides with alternative sites of action.
- Rotate the use of this product with non-group 1 herbicides.
- Avoid making more than two applications of ASSURE II herbicide and any other group 1 herbicides within a single growing season unless mixed with an herbicide with a different site of action with an overlapping spectrum for the difficult-to-control weeds.
- Incorporate non-chemical weed control practices, such as mechanical cultivation, crop rotation, cover crops and weed-free crop seeds, as part of an integrated weed control program.
- Use good agronomic principles that enhance crop development and crop competitiveness.
- Thoroughly clean plant residues from equipment before leaving fields suspected to contain resistant weeds.
- Manage weeds in and around fields, during and after harvest to reduce weed seed production.

## **INTEGRATED PEST MANAGEMENT**

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

### **TANK MIXES**

It is the pesticide applicator'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. Applicators must read and follow the most restrictive directions for use, precautions, and limitations of each product in the tank mixture.

Refer to the labels of all tank mix products for information regarding use information (such as rates, timing, application information, and sprayer cleanup) and product precautions and restrictions (especially adjuvants - ASSURE II requires the use of an adjuvant). The most restrictive provisions apply. If those instructions conflict with this label, do not tank mix the herbicide with ASSURE II.

AMVAC also recommends that you first consult your state experiment station, university, or extension agent, Agricultural dealer, or AMVAC representative as to the potential for any adverse interactions (resulting in unacceptable grass control and/or crop injury) before using new herbicide, insecticide and fungicide mixtures. If no information is available, limit the initial use of ASSURE II and the new herbicide, insecticide or fungicide product to a small area.

#### **Tank Mix Compatibility Testing**

Always conduct a jar test to evaluate physical compatibility of ASSURE II and other pesticides before applying a particular mixture to listed crops for the first time. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, gels, oily film or layers, or other precipitates, it is not compatible.

#### ***Application with Insecticides and Fungicides***

ASSURE II may be tank mixed with postemergence fungicides, insecticides and bactericides registered for use in the specific crop.

#### ***Application with Broadleaf Herbicides***

For best results, apply ASSURE II alone or in sequence with broadleaf herbicide(s). Under arid or stressful environmental conditions, tank mixtures with broadleaf herbicides may reduce control of some grass species. Activity of the postemergence broadleaf herbicide in the tank mixture is not affected.

#### ***Split Applications with Postemergence Broadleaf Herbicides***

ASSURE II applied immediately prior to or following an application of a postemergence broadleaf herbicide may reduce control of some grasses. For best results apply ASSURE II at least 1 day before or 7 days after postemergence broadleaf herbicides.

## SPOT/SMALL AREA SPRAY INSTRUCTIONS

To spot treat small areas of annuals (i.e., volunteer corn) or perennials (i.e., rhizome johnsongrass) Use a 0.375% volume/volume (v/v) solution of ASSURE II and water.

### SPRAY VOLUMES FOR SMALL AREAS

Spray Volume (gallon)	ASSURE II (fl oz)	+	Crop Oil Concentrate (fl oz)	OR	Nonionic Surfactant (fl oz)
1	0.5 (1 tbsp)		1.25 (2.5 tbsp)		0.3 (2 tsp)
25	12 (3/4 pt)		32 (1qt)		8 (1 cup)
50	24 (1.5 pt)		64 (2 qt)		16 (1 pt)
100	48 (3 pt)		128 (1 gal)		32 (1 qt)

Do not spot treat grasses using a tank mix of ASSURE II and broadleaf herbicides.

- Include a phytobland crop oil concentrate at 1 gallon per 100 gallons of spray solution (1% v/v) or a nonionic surfactant at 1 qt per 100 gallons of spray solution (0.25% v/v).
- Treat plants on a spray-to-wet basis to ensure good coverage.
- Do not treat >10% of the total treated area as spot/small area treatment. Do not exceed the maximum specified rate/acre/season for the crop that is going to be planted when additional applications are made as spot treatment or small area treatment.

### Cultivation

A timely cultivation may be necessary to control suppressed weeds, weeds that were beyond the maximum size at application, or weeds that emerge after an application of ASSURE II.

Cultivation up to 7 days before the postemergence application of ASSURE II may decrease weed control by pruning weed roots, placing the weeds under stress, or covering the weeds with soil and preventing coverage by ASSURE II.

Optimum timing for cultivation is 7 - 14 days after a postemergence application of ASSURE II.

### Agricultural Uses

ASSURE II herbicide is a selective herbicide that controls annual and perennial grasses in canola, carinata, crambe, cotton (cottonseed subgroup 20C), crops grown for seed, eucalyptus, dry beans (including Chickpea), dry and succulent peas, flax (flaxseed), fruit, pome crop group 11-10 (except New York state), fruit, small vine climbing, except fuzzy kiwifruit crop subgroup 13-07F (except New York state), fruit, stone crop group 12-12 (except New York state), hybrid poplar plantings, lentils, mint (spearmint and peppermint), pennycress, pineapple, rapeseed subgroup 20A (includes borage, canola, crambe, gold of pleasure [camelina], cuphea, echium, Hare's ear mustard, oil radish, poppy seed, rapeseed, sesame, sweet rocket, cultivars, varieties, and/or hybrids of these), ryegrass grown for seed, snap beans, soybeans, sugarbeets, sunflower (subgroup 20B), Enlist™ field corn and non-crop areas. ASSURE II is also registered for control of annual and perennial grasses in alfalfa, onion, carrot, garlic, Swiss chard, spinach, radish, Chinese cabbage, and red beets grown specifically under contract as non-food/non feed crops for seed production only.

ASSURE II does not control sedges or broadleaf weeds. ASSURE II controls the grasses listed in the "Weeds Controlled and rate Selection" chart when applied at specified rates and timings. ASSURE II will control emerged grasses. Subsequent flushes of grasses require additional treatment. See "use restrictions" portion of the label before using. Follow all use directions and restrictions listed for the specific crop.

### Non-Agricultural Uses

#### Non-Crop Areas

ASSURE II is registered for postemergence control of certain grasses on non-crop sites including fence rows, roadsides and equipment storage areas.

- Apply by ground application equipment only.
- DO NOT apply by aerial application.
- For paved areas, apply as spot/small area treatments only (see Spot/Small Area Spray instructions section).
- Make a single application of ASSURE II at a rate of 12 to 16 fl oz/A (0.083 - 0.11 lb ai/A) to actively growing grasses.

#### Non-Crop Areas - to aid in establishment of Wildflowers

- Since ASSURE II controls many grasses but not most broadleaf plants, it may be used to enhance establishment and growth of certain broadleaf plants on non-crop sites (that is, plants identified as "wildflowers" such as indian blanket, cone flowers, bachelor button, dwarf cornflower, coreopsis, white yarrow, oxeye daisy, dames-rocket, blue flax,

evening primrose, blackeyed-susan, marigold, impatiens, bluebonnet, Indian paintbrush, verbena, gaillardia, chrysanthemum, catchfly and scarlet pimpernel).

- Make a single application of ASSURE II at a rate of 5 to 12 fl oz/A (0.034 - 0.083 lb ai/A). Refer to the “Weeds Controlled and Rate Selection” table for specific application rates. Do not apply more than 12 fl oz/A (0.083 lb ai/A) per year.

### **Application Timing**

#### **Crop and Non-Crop Uses**

Apply ASSURE II to young, actively growing grasses according to the rate chart that follows. If a field is to be irrigated, apply ASSURE II after the irrigation. Applications made to grasses that are larger than the sizes listed in the rate charts or to grasses under stress may result in unsatisfactory control.

#### **Sequential Applications**

Do not exceed the maximum use rates listed under the directions for each specific crop.

#### **Annual Grasses**

In the event of a subsequent flush of grass, or regrowth of previously treated grass occurs, a second application of ASSURE II may be applied unless stated otherwise. Select the appropriate rate for the grassy weed from the “Weeds Controlled - rate selection” chart.

#### **Perennial Grasses**

If perennial grasses regrow, reapply ASSURE II at 6-7 fl oz/A of product, unless stated otherwise. Do not exceed the maximum use rates listed under each crop.

#### **Spray Adjuvants**

Applications of ASSURE II must include either a crop oil concentrate or a nonionic surfactant. Consult local AMVAC fact sheets, technical bulletins, and service policies prior to using other adjuvant systems. If another herbicide is tank mixed with ASSURE II to increase the weed spectrum, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients.

#### **Petroleum Crop Oil Concentrate (COC)**

- Petroleum-based crop oil concentrates are the most effective adjuvant type with ASSURE II.
- Apply petroleum-based crop oil concentrate at 1% v/v (1 gallon per 100 gallons spray solution) or 2% under arid conditions. Note – In soybean and sunflower, up to 2% v/v may be used based on local recommendations.
- Oil adjuvants must contain at least 80% phytoblend, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.
- For aerial application apply 0.5% v/v (2 quarts product per 100 gallons spray solution).

#### **Nonionic Surfactant (NIS)**

- Apply at 0.25 % v/v (1 quart of product per 100 gallons spray solution).
- Surfactant products must contain at least 80% nonionic surfactant.

#### **Ammonium Nitrogen Fertilizer**

- An ammonium nitrogen fertilizer may be added to the spray mixture, in addition to crop oil concentrate or nonionic surfactant, but is not required to optimize performance of this product.
- Use 2 quart/A of a high-quality urea ammonium nitrate (UAN), such as 28%N or 32%N, or 2 lb/A of a spray-grade ammonium sulfate (AMS). Use 4 qt/A UAN or 4 lb/A AMS under arid conditions.
- Do not use liquid nitrogen fertilizer as the total carrier solution.

#### **Special Adjuvant Types**

- Combination adjuvant products may be used at doses that provide the required amount of NIS, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.
- In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality and have been evaluated and approved by AMVAC Product Development.

## WEEDS CONTROLLED AND RATE SELECTION

	Size (in) at Application	ASSURE II Applied Alone (fl oz/A)	ASSURE II* Tank Mixed with Broadleaf Herbicide (fl oz/A)
<b>Annual Grasses**</b>			
Volunteer corn ( <i>Zea mays</i> )***	6-30	4 - 8	8 - 12
Foxtail, Giant ( <i>Setaria faberi</i> )	2-4 (pretiller)	5 - 8	8 - 12
Johnsongrass, Seedling ( <i>Sorghum halepense</i> )	2-8		
Shattercane ( <i>Sorghum bicolor</i> )	6-12		
Wild proso Millet ( <i>Panicum miliaceum</i> )	2-6		
Crowfootgrass ( <i>Dactyloctenium aegyptium</i> )	2-6	7 - 8	8 - 12
Fall panicum ( <i>Panicum dactomiflorum</i> )	2-6		
Field sandbur ( <i>Cenchrus incertus</i> )	2-6		
Foxtail, Bristly ( <i>Setaria verticillata</i> )	2-4		
Foxtail, Giant ( <i>Setaria faberi</i> )	2-8		
Foxtail, Green ( <i>Setaria viridis</i> )	2-4		
Foxtail, Yellow ( <i>Setaria pumila</i> )	2-4		
Goosegrass ( <i>Eleusine indica</i> )	2-6‡		
Itchgrass ( <i>Rottboellia exaltata</i> )	2-8		
Sprangletop ( <i>Leptochloa filiformis</i> )	2-6		
Volunteer barley ( <i>Hordeum vulgare</i> )	2-6		
Volunteer oats ( <i>Avena sativa</i> )	2-6		
Volunteer rye ( <i>Secale cereale</i> )	2-6		
Volunteer wheat ( <i>Triticum aestivum</i> )	2-6		
Wild oat ( <i>Avena fatua</i> )	2-6		
Witchgrass ( <i>Panicum capillare</i> )	2-6		
Barnyardgrass ( <i>Echinochloa crus-galli</i> )	2-6	8 - 10	Split†
Crabgrass, Large ( <i>Digitaria sanguinalis</i> )	2-6‡		
Crabgrass, Smooth ( <i>Digitaria ischaemum</i> )	2-6‡		
Junglerice ( <i>Echinochloa colonum</i> )	2-6		
Texas panicum ( <i>Panicum texanum</i> )††	2-4	9 - 10	Split†
Red rice ( <i>Oryza sativa</i> )	1-4		
Woolly cupgrass ( <i>Eriochloa villosa</i> )	2-4§		
Broadleaf signalgrass ( <i>Brachiaria platyphylla</i> )	2-6	10	Split
Downy brome ( <i>Bromus tectorum</i> ) Italian ryegrass ( <i>Lolium multiflorum</i> ) Jointed goatgrass ( <i>Aegilops cylindrica</i> ) Windgrass ( <i>Bromus mollis</i> )	2-6 2-6 2-6 2-6	10-12	12
<b>Perennial Grasses**</b>			
Wirestem muhly ( <i>Muhlenbergia frondosa</i> )	4-8	8 - 10	Split†
Bermudagrass ( <i>Cynodon dactylon</i> )	3" tall (or up to 6" runners)	10 - 12	Split†
Johnsongrass, Rhizome ( <i>Sorghum halepense</i> )	10-24		10 - 12
Quackgrass ( <i>Elymus repens</i> )	6-10		Split†



\* See "Application With Broadleaf Herbicides".

\*\* For annual and perennial grasses, up to 12 fl oz/A may be applied, based on local recommendations. **Under arid conditions apply at the higher use rate.**

\*\*\* Control includes glyphosate resistant corn, glufosinate-resistant corn and imidazolinone-resistant corn. Apply 4 fl oz/A ASSURE II for up to 12 inch tall volunteer corn. Apply 5 fl oz/A ASSURE II for 12-18 inch volunteer corn and 8 fl oz/A ASSURE II for 18-30 inch volunteer corn.

† Split = Split Application. Grass species may not be controlled when ASSURE II is tank mixed with broadleaf herbicides. To prevent antagonism of grass control, apply ASSURE II either 1 day before or 7 days after the broadleaf herbicide.

‡ Length of lateral growth.

§ Size in height or diameter, whichever is more restrictive. Applications to plants with more than three tillers may result in unsatisfactory control.

†† Do not apply ASSURE II at less than 10 fl oz/A in Texas and other areas of the arid west.

SPECIMEN

## Specific Weed Problems

### Volunteer Glyphosate-Resistant Corn

ASSURE II may be used for control of volunteer glyphosate resistant corn in other glyphosate resistant crops. For control of other weeds, it may be tank mixed with glyphosate as follows:

- Apply ASSURE II at a rate of 4 fl oz/A for up to 12 inch volunteer corn, 5 fl oz/A for 12-18 inch corn and 8 fl oz/A ASSURE II for 18-30 inch corn, tank mixed with a labeled rate of glyphosate.
- A nonionic surfactant or petroleum based crop oil concentrate adjuvant must be included. Refer to the Spray Adjuvants section in this label for adjuvant preference, rates, and additional use information.

### Rhizome Johnsongrass - South East States

For control of rhizome johnsongrass in the states of Alabama, Arkansas, Florida, Georgia, Louisiana, Maryland, Mississippi, Tennessee, Virginia, and West Virginia, a reduced rate of ASSURE II may be used if applied in a sequential application program as follows:

1. Apply ASSURE II at 5 fl oz/A when johnsongrass is 10-24 inches tall.
2. Apply ASSURE II a second time at 5 fl oz/A when johnsongrass regrowth is 6-10 inches tall.

Do not apply ASSURE II in a tank mix with postemergence broadleaf herbicides when using this reduced rate, sequential application program. Do not exceed the maximum specified rate/acre/season for the crop that is going to be planted when additional applications are made to control rhizome johnsongrass.

### Rhizome Johnsongrass

ASSURE II herbicide will provide control of weeds in fallow, including emerged rhizome and seedling Johnsongrass. Note that, when applied at specified rates and timings to control grass weeds, ASSURE II herbicide will provide control of emerged grasses only. Subsequent flushes of grasses require additional treatment.

Apply ASSURE II herbicide for control of seedling and rhizome Johnsongrass at the range indicated.

- Apply ASSURE II at 8 fl oz/A when seedling johnsongrass is 2 - 6 inches tall.
- Apply ASSURE II at 12 fl oz/A when rhizome johnsongrass is 12-16 inches tall.
- If rhizome Johnsongrass regrows, reapply ASSURE II at 8 fl oz/A when Johnsongrass regrowth is 6-10 inches in height.

Tank mixes of ASSURE II with postemergence broadleaf herbicides may result in reduced grass control. If grass control is reduced, an additional application of ASSURE II may be required after grass plants begin regrowth.

## Specific Crop Use Directions and Restrictions

Table 1. Crop Specific Use Directions

Crops	Use rate/A <sup>1,2</sup> (fl oz)	No. of applications /crop year <sup>3</sup>	PHI (days)	Maximum rate/acre/crop year fl oz (lb ai)	Instructions and Restrictions
Canola Crambe Rapeseed Crop subgroup 20A (except Flax)* Carinata Pennycress	4 -12	2	60	18 (0.124)	Apply in a minimum of 3 gallons of water per acre. Chemigation not allowed.  <b>Restrictions:</b> Do not apply ASSURE II within 14 days of anticipated bloom of crop.
	*borage, canola, crambe, gold of pleasure (camelina), cuphea, echium, hare's ear mustard, lequesrella, lunaria, meadowfoam, milkweed mustard seed, oil radish, poppy seed, rapeseed, sesame, sweet rocket, including cultivars, varieties, and/or hybrids of these				
Enlist Field Corn  AL, AR, CO, DE, FL, GA, IA, IL, IN, KS, KY, LA,	5 - 12	2	80	12 (0.083)	Apply ASSURE II herbicide as a postemergence foliar spray to selectively control grasses only in Enlist Field Corn.  Applications must include either a crop oil concentrate (1% v/v) or a nonionic surfactant

Crops	Use rate/A <sup>1,2</sup> (fl oz)	No. of applications /crop year <sup>3</sup>	PHI (days)	Maximum rate/acre/crop year fl oz (lb ai)	Instructions and Restrictions
MD, MI, MN, MO, MS, NC, ND, NE, NJ, NM, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV					(0.25% v/v). Apply ASSURE II to emerged Enlist field corn from V2-V6 stage of growth. See direction below this table for further directions and information specific to Enlist field corn.  <b>Restrictions:</b> Do not apply to any other corn types as severe injury will occur. Do not allow grazing on treated corn within 30 days of application. Do not apply by aerial application. Do not harvest forage within 30 days of application. Do not harvest grain and stover within 79 days of application.
Cotton (Cottonseed subgroup 20C)	4 - 12	2	80	18 (0.124)	Apply in a minimum of 3 gallons of water per acre. Chemigation not permitted.  <b>Restrictions:</b> Do not apply ASSURE II within 14 days of anticipated bloom of crop.
Dry and succulent peas	4 - 12	2	Dry peas: 60 Succulent peas: 30	14 (0.096)	
Dry beans including chickpea	4 - 12	2	30	24 (0.165)	
Dry Beans, Dry and Succulent Peas  ID MT OR WA	<p>ASSURE II herbicide can be tank mixed with bentazon herbicide for selective postemergence weed control of annual and perennial grasses and broadleaf weeds.</p> <p>When tank mixing ASSURE II with bentazon, annual grass antagonism can be reduced by increasing the specified use rate of ASSURE II by at least 2 fl oz/A. Refer to specific crop use directions for maximum use rates.</p> <p>ASSURE II requires the use of crop oil concentrate or nonionic surfactant adjuvants. Refer to bentazon labels for application information and restrictions. The most restrictive provisions on either label apply. Do not use the tank mix if any restrictions on the bentazone label conflict with instructions on the ASSURE II label. Do not tank mix ASSURE II and adjuvants with bentazon when temperatures exceed 80 °F, as excessive leaf burn may occur.</p>				
Eucalyptus Plantations  HI	15 -30	4	N/A	60 (0.41)	Apply ASSURE II as a broadcast spray through accurately calibrated ground application equipment only.  <b>Weeds controlled:</b> Para grass (Panicum muticum), Crabgrass (Digitaria spp.)  <b>Weeds partially controlled:</b> Torpedograss (panicum repens)  <b>Restrictions:</b> Do not apply by aerial application.

Crops	Use rate/A <sup>1,2</sup> (fl oz)	No. of applications /crop year <sup>3</sup>	PHI (days)	Maximum rate/acre/ crop year fl oz (lb ai)	Instructions and Restrictions
Flax (flaxseed)	4 - 12	2	70	24 (0.165)	
Fruit, Pome (crop group 11-10)* (except NY)	12	2	14	24 (0.165)	Apply Assure II as a directed spray in a band extending out a minimum of 3 feet on each side of the tree row in 10-40 gallons of water/acre to control labelled grass weeds.  <b>Restrictions:</b>  Do not allow the spray solution to contact the trees. Do not apply by aerial application. Application intervals must be at least 14 days apart to allow regrowth to occur. Do not apply ASSURE II within 14 days of anticipated bloom of crop.
* Apple; Azarole; Crabapple; Loquat; Mayhaw; Medlar; Pear; Pear, Asian; Quince; Quince, Chinese; Quince, Japanese; Tejocote; cultivars, varieties, and/or hybrids of these					
Fruit, Small Vine Climbing, except Fuzzy Kiwifruit (subgroup 13- 07F)* (except NY)	5	2	15	10 (0.068)	Apply Assure II as a directed spray in a band extending out a minimum of 3 feet on each side of the row in 10-40 gallons of water/acre to control labelled grass weeds.  <b>Restrictions:</b>  Do not allow the spray solution to contact the vines. Do not apply by aerial application. Application intervals must be at least 14 days apart to allow regrowth to occur. Do not apply ASSURE II within 14 days of anticipated bloom of crop.
* Amur River Grape; Gooseberry; Grape; Kiwifruit, Hardy; Maypop; Schisandra Berry; cultivars, varieties, and/or hybrids of these					
Fruit, Stone (crop Group 12-12)* (except NY)	12	2	14	24 (0.165)	Apply Assure II as a directed spray in a band extending out a minimum of 3 feet on each side of the tree row in 10-40 gallons of water/acre to control labelled grass weeds.  <b>Restrictions:</b>  Do not allow the spray solution to contact the trees. Do not apply by aerial application. Application intervals must be at least 14 days apart to allow regrowth to occur. Do not apply ASSURE II within 14 days of anticipated bloom of crop.
*Apricot; Apricot, Japanese; Capulin; Cherry, Black; Cherry, Nanking; Cherry, Sweet; Cherry, Tart; Jujube, Chinese; Nectarine; Peach; Plum, American; Plum, Beach; Plum, Canada; Plum, Cherry; Plum, Chickasaw; Plum, Damson; Plum, Japanese; Plum, Klamath; Plum, Prune; Plumcot; Sloe; cultivars, varieties, and/or hybrids of these					

Crops	Use rate/A <sup>1,2</sup> (fl oz)	No. of applications /crop year <sup>3</sup>	PHI (days)	Maximum rate/acre/crop year fl oz (lb ai)	Instructions and Restrictions
Hybrid Poplar establishment planting  ME MN	5 - 10	2	N/A	10 (0.064)	ASSURE II may be applied over hybrid poplar following planting.  <b>Restrictions:</b> Do not apply by aerial application.
Lentils	4 - 12	2	60	14 (0.096)	
Mint Peppermint spearmint	4 - 12	2	30	24 (0.165)	
Pineapple  HI Puerto Rico	Foliar and directed spot treatment : 15 – 30	4	160	60 (0.41)	Subsequent flushes of grasses will require additional applications of Assure II. Use a properly calibrated sprayer and add the proper amount of ASSURE II in water. Directed spot treatments for perennial grasses - Spray perennial grasses postemergence to wet (50-100 gallons per acre depending on size) with 15 to 30 fluid ounces product per 100 gallons of water.  <b>Weeds Controlled:</b> Sour grass ( <i>Tricachne insularis</i> ), Crabgrass ( <i>Digitaria</i> spp.), Natal red Top ( <i>Agrostis alba</i> )  <b>Weeds partially controlled:</b> Guineagrass ( <i>Panicum maximum</i> ), Wiregrass ( <i>Eleusine indica</i> ), Molasses grass ( <i>Melinis minutiflora</i> )  <b>Restrictions:</b> Do not graze treated fields or harvest for forage or hay. Apply by ground application equipment only. Do not apply by aerial application. Do not apply more than 4 applications <b>per harvest</b> . Do not apply more than 60 fl. oz. (0.41 lb ai) of product per acre <b>per harvest</b> .
Snap beans	4 - 12	2	15	14 (0.096)	
Soybean	4 - 12	2	80	18 (0.124)	Refer to Application with Broadleaf Herbicides and Split Applications with Postemergence Broadleaf Herbicides sections in this label before tank-mixing Assure II with labeled postemergent soybean broadleaf herbicides. Include ammonium nitrogen fertilizer if allowed on the tank-mix partner label.
Sugarbeet	4 - 12	4	45	25 (0.17)	<b>Restrictions:</b> Do not feed beet tops within 60 days of last application.
Sunflower (subgroup)	4 - 12	2	60	18 (0.124)	<b>Restrictions:</b> Do not apply by chemigation. Do not apply

Crops	Use rate/A <sup>1,2</sup> (fl oz)	No. of applications /crop year <sup>3</sup>	PHI (days)	Maximum rate/acre/crop year fl oz (lb ai)	Instructions and Restrictions
20B)*					ASSURE II within 14 days of anticipated bloom of crop.
	*Calendula; Caster Oil Plant; Chinese Tallowtree; Euphorbia; Evening Primrose; Jojoba; Niger Seed; Rose Hip; Safflower; Stokes Aster; Sunflower; Tallowwood; Tea Oil Plant; Vernonia; cultivars, varieties, and/or hybrids of these				

N/A = Not Applicable

1 Refer to Weeds Controlled and Rate Selection Table for specific use rates.

2 All applications of ASSURE II must include either a crop oil concentrate or a nonionic surfactant. Refer to the Spray Adjuvants section in this label for adjuvant preference, rates, and additional use information.

3. Sequential application intervals must be greater than 7 days apart to allow regrowth to occur except where noted in the instructions and restrictions section in the table for specific crops.

**Enlist Field Corn- These directions are for use only on Enlist field corn. Information on crop varieties containing this trait may be obtained from your seed supplier.**

#### In-Field Buffer:

The applicator must always maintain a 36-foot, downwind buffer between the last treated row and the nearest downwind field edge (in the direction the wind is blowing).The following areas may be included in the buffer distance calculation when directly adjacent to the treated field edge(s):

- Roads, paved or gravel surfaces.
- Planted agricultural fields (except crops listed in the "Susceptible plants" section).
- Agricultural fields that have been prepared for planting.
- Areas covered by the footprint of a building, shadehouse, greenhouse, silo, feed crib, or other man-made structure with walls and/or a roof.

To maintain the required downwind buffer zone:

- Measure the wind direction prior to the start of any swath that is within 36 feet of a sensitive area.
- No application swath can be initiated in or into an area that is within 36 feet of a sensitive area if the wind direction is towards the sensitive area.

#### Susceptible Plants:

Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Do not allow contact of herbicide with foliage, green stems, exposed non-woody roots of crops, desirable plants; including trees, because severe injury or destruction may result. Small amounts of spray drift that may not be visible may injure susceptible plants. Most grass crops, including wheat, barley, rye, oats, sorghum, rice, and non - Enlist corn are highly sensitive to ASSURE II. Before making an application, please refer to your state's sensitive crop registry (if available) to identify any commercial specialty or certified organic crops that may be located nearby.

#### Resistance Management for Enlist Field Corn:

The following steps are provided to aid in the prevention of developing weeds resistant to this product:

- Scout field before application to ensure herbicides and rates will be appropriate for the weed species and weed sizes present.
- Apply the maximum specified labeled use rate of this product for the most difficult to control weed in the field at the specified time (correct weed size) to minimize weed escapes.
- Scout field after application to detect weed escapes or shifts in weed species.
- Report any incident of non-performance of this product on a targeted weed species to your AMVAC retailer, representative, or call 1-888-462-6822
- If resistance is suspected in targeted weed species, treat weed escapes with an herbicide having a mechanism of action other than group 1 and/or use non-chemical methods to remove escapes, as practical, with the goal of preventing further seed production. Report suspected resistance to your AMVAC retailer, representative, or call 1-888-462-6822.

**Suspected Resistance:** Indicators of suspected herbicide resistance include (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of uncontrolled plants of a particular weed species; and (3) surviving plants mixed with controlled individuals of the same species. Likely resistant weeds are assumed to be present if any of these criteria are met.

Additionally, users should follow as many of the following herbicide-resistance management practices as practicable:

- Use a broad-spectrum, soil-applied herbicide with other mechanisms of action as a foundation in a weed control program.
- Utilize sequential applications of herbicides with alternative mechanisms of action.
- Rotate the use of this product with non-group 1 herbicides.
- Incorporate non-chemical weed control practices, such as mechanical cultivation, crop rotation, cover crops, and weed-free crop seeds, as part of an integrated weed control program.
- Thoroughly clean plant residues from equipment before leaving fields suspected to contain resistant weeds.
- Avoid using any other group 1 herbicides within a single growing season unless in conjunction with another mechanism-of-action herbicide with overlapping spectrum.
- Manage weeds in and around fields, during and after harvest to reduce weed seed production.

Contact your local sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to group 1 herbicides have been found in your regions. 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 action for each target weed.

**Tank Mixing:**

- For use on Enlist corn, do not tank mix this product with any other pesticide product(s) without first consulting the website at [www.EnlistTankMix.com/ASSUREII](http://www.EnlistTankMix.com/ASSUREII). This website contains a list of pesticide active ingredients that are currently prohibited from tank mixing with this product. When tank mixing this product, only use pesticide product(s) that: 1) are registered for the intended use site, application method, and timing; 2) do not prohibit tank mixing; and 3) do not contain one of the prohibited pesticide active ingredients listed on [www.EnlistTankMix.com/ASSUREII](http://www.EnlistTankMix.com/ASSUREII).
- Mixers, applicators, and other handlers of this product must consult the website within one week prior to application in order to comply with the most up-to-date information on tank mix partners.

SPECIFIED

**Table 2. Non-Food/Non Feed Crop Specific Use Directions**

Crops	Use rate/A <sup>1,2</sup> (fl oz)	No. of applications /crop year <sup>3</sup>	PHI (days)	Maximum rate/acre/crop year fl oz (lb ai)	Instructions and Restrictions
Crops grown under contract for seed production: Alfalfa Carrot Chinese Cabbage Garlic Onion Red beets Swiss Chard Spinach  ID MT OR WA WY	4 -12	2	N/A	25 (0.17)	Grass crops, including wheat, barley, rye, oats, sorghum, rice, and corn are highly susceptible to ASSURE II herbicide. Avoid direct or indirect contact.  Application of ASSURE II is for seed propagation only as a nonfood/nonfeed use. Seed from treated plants must only be used for breeding purposes or seed production. Seed from ASSURE II treated plants must be labeled as follows "Do not use for feed, food or oil purposes." All seed crops treated with ASSURE II herbicide are to be tagged at the processing facility, "Not for Human or Animal Consumption". It shall be the growers' responsibility to notify the processing facility of any seed crop that has been treated with ASSURE II. <b>Restrictions:</b> Do not apply by aerial application. Do not apply ASSURE II within 14 days of anticipated bloom of crop. <b>Grazing of treated crop is prohibited.</b> <b>No portion of the treated plants may be used for human or animal consumption and cannot be used or processed for food or feed.</b>
Ryegrass (non-food/non-feed ASSURE II tolerant perennial ryegrass grown for seed)  MN	Season 1 10	2	N/A	20 (0.138)	Apply the first season of ryegrass growth anytime from planting until the end of August for quackgrass control.  <b>Restrictions:</b> Do not apply after August.
	Season 2 10	2	N/A	20 (0.138)	Apply prior to the boot stage in the spring of the second year of ryegrass growth for quackgrass suppression and seed prevention.
	<b>Restrictions:</b> Do not apply by aerial application. Do not use or allow any portion of crop (seed, sprouts, screenings, forage, hay, stover, etc.) for human or animal consumption. Grazing of treated crop is prohibited.				

N/A = Not Applicable

1. Refer to Weeds Controlled and Rate Selection Table for specific use rates.
2. All applications of ASSURE II must include either a crop oil concentrate or a nonionic surfactant. Refer to the Spray Adjuvants section in this label for adjuvant preference, rates, and additional use information.
3. Sequential application intervals must be greater than 7 days apart to allow regrowth to occur.

**CROP ROTATION**

Do not rotate to crops other than carinata, cotton (cottonseed subgroup 20C), crops grown for seed, dry beans (including chickpea), flax (flaxseed), lentils, mint (spearmint and peppermint), peas (dry and succulent peas), pennycress, pineapple, rapeseed subgroup 20A [includes borage, canola, crambe, gold of pleasure (camelina), cuphea, echium, hare's ear mustard, lesquerella, lunaria, meadowfoam, milkweed, mustard seed, oil radish, poppy seed, rapeseed, sesame, and sweet rocket], ryegrass grown for seed, snap beans, soybeans, sunflower (subgroup 20B), sugarbeets or Enlist field corn within 120 days after application.



## APPLICATION EQUIPMENT

See SPRAY DRIFT MANAGEMENT section for additional information and precautions.

### Ground Application

#### Broadcast Application

- When applying by ground, use spray nozzles that will deliver medium or larger spray droplets as defined in the American Society of Agricultural and Biological Engineers (ASABE) standard ANSI/ASAE S572.1 (March 2009). (See Spray Drift Management section for additional information).
- Use flat fan or hollow cone nozzles at 25-60 psi.
- Do not use flood, rain drop, whirl chamber, or any other nozzle types that produce coarse, large spray droplets. In addition, do not use controlled droplet applicator (CDA) type nozzles as poor weed control or excessive spray drift may result.
- Use a minimum of 10 gal/A of water in non-arid areas.
- Use a minimum of 15 gal/A of water in arid areas.
- For all crops except pineapple: Do not exceed 40 gal of water per acre. Refer to pineapple section for specified spray water volumes.
- Increase spray volume and pressure as weed or crop density and size increase.

#### Band Application

- Because band application equipment sprays a narrower area than broadcast application equipment, calibrate equipment to use proportionately less spray solution.
- To avoid crop injury, carefully calibrate the band applicator not to exceed the labeled rate.
- Carefully follow the manufacturer's instructions for nozzle type, nozzle orientation, distance of the nozzles from the crop and weeds, spray volumes, calibration, and spray pressure.

#### Aerial Application

- Use spray nozzles that will deliver coarse or larger spray droplets as defined in the American Society of Agricultural and Biological Engineers (ASABE) standard ANSI/ASAE S572.1 (March 2009). (See Spray Drift Management section for additional information).
- Use nozzle types and arrangements that provide optimum spray distribution and maximum coverage.
- Use a minimum of 3 gal of water per acre in non-arid areas.
- Use a minimum of 5 gal of water per acre in arid areas.

## MIXING INSTRUCTIONS

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of ASSURE II. If ASSURE II and a tank mix partner are to be applied together, consult the tank mix partner label for information on which should be added first (normally granules and powders are added first).
3. Continue agitation until the ASSURE II is fully dispersed, at least 5 minutes.
4. Once the ASSURE II is fully dispersed, maintain agitation and continue filling tank with water.
5. As the tank is filling, add the required volume of spray additives, always add these to the spray tank last.
6. Apply ASSURE II spray mixture within a reasonable period of time of mixing to avoid product degradation (24 to 48 hrs). If the spray mixture stands for any period of time, thoroughly re-agitate before using.

## SPRAYER CLEANUP

The spray equipment must be cleaned before ASSURE II is sprayed. Follow the cleanup procedures specified on the labels of the previously applied products. If no directions are provided, follow the six steps outlined in After Spraying ASSURE II. It is very important that any buildup of dried pesticide deposits which have accumulated in the application equipment be removed prior to spraying ASSURE II. Steam-cleaning spray tanks to facilitate the removal of any caked deposits of previously applied products will help prevent accidental crop injury.

### After Multiple Loads of ASSURE II herbicide

At the end of each day after multiple loads of ASSURE II herbicide are applied, rinse the interior of the tank with fresh water and then partially fill to flush boom and hoses. This will prevent the buildup of dried pesticide deposits which can accumulate in the application equipment.

### After Spraying ASSURE II and Before Spraying Susceptible Crops and Crops Other Than Those Listed in the Crop Rotation Section

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of ASSURE II as follows:

- Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
- Fill the tank with clean water and 1 gal of household ammonia\* (contains 3% active) for every 100 gal of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 min. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
- Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
- Repeat step 2.
- Rinse the tank, boom, and hoses with clean water.
- If only Ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) recommended on this label. Do not exceed the maximum labeled use rate. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

\*Equivalent amounts of an alternate-strength ammonia solution or an AMVAC-approved cleaner can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your Ag dealer, applicator, or AMVAC representative for a listing of approved cleaners.

#### Notes:

- CAUTION: Do not use chlorine bleach with ammonia as dangerous gases will form. Do not clean equipment in an enclosed area.
- Steam-cleaning spray tanks is recommended prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
- When ASSURE II is tank mixed with other pesticides, all cleanout procedures should be examined and the most rigorous procedure should be followed.
- In addition to this cleanout procedure, all precleanout guidelines on subsequently applied products should be followed as per the individual labels.
- Where routine spraying practices include shared equipment frequently being switched between applications of ASSURE II and applications of other pesticides to ASSURE II-sensitive crops during the same spray season, it is recommended that a sprayer be dedicated to ASSURE II to further reduce the chance of crop injury.

## SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

### Importance of Droplet Size

The most effective way to reduce drift potential is to apply coarse or larger spray droplets as defined by the ASABE standard ANSI/ASAE S572.1 (March 2009). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See **Wind, Temperature and Humidity**, and **Temperature Inversions** sections of this label.

### 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

**Number of Nozzles** - using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum.

**Nozzle Orientation** - orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.

**Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) or other low drift nozzles produce the coarsest droplet spectra.

**Pressure** - Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential.

## Boom Length (Aircraft) and Application Height

- **Boom Length (aircraft)** - using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- **Application Height (aircraft)** - Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift.
- **Application Height (ground)** - Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

## Wind

Apply when wind speeds are less than 15 mph. The wind speed range for optimum performance is between 3 and 10 mph. At wind speeds less than 3 mph temperature inversions may exist, and at wind speeds above 10 mph spray patterns may be compromised. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

**Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

## Temperature and humidity

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

## Temperature inversions

Do not apply during surface temperature inversions. Drift potential is high during a surface temperature inversion. Surface temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

## Shielded Sprayers

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

## Sensitive Areas

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

## DRIFT CONTROL ADDITIVES

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution.

Preferred drift control additives have been certified by the Chemical producers and Distributors Association (CPDA).

### Upwind Swath Displacement

When applications are made with a crosswind the swath will be displaced downwind. An adjustment for swath displacement is made on the downwind edge of the application site by shifting the path of the application equipment upwind.

### SPRAY DRIFT RESTRICTIONS

Where states have more stringent regulations they must be observed.

#### AERIAL APPLICATION

- When applying by air, use spray nozzles that will deliver coarse or larger spray droplets as defined in the American Society of Agricultural and Biological Engineers (ASABE) standard ANSI/ASAE S572.1 (March 2009).
- The boom length must not exceed 75% of the wingspan or 80% of the rotor blade diameter.
- Applications with wind speeds greater than 15 miles per hour are prohibited.
- Applications into temperature inversions are prohibited.
- Spray must be released at the lowest height consistent with pest control objectives and flight safety.
- Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size spectrum.

#### GROUND APPLICATIONS

- When applying by ground, use spray nozzles that will deliver medium coarse or larger spray droplets as defined in the American Society of Agricultural and Biological Engineers (ASABE) standard ANSI/ASAE S572.1 (March 2009).
- Applications with wind speeds greater than 15 miles per hour are prohibited.
- Applications into temperature inversions are prohibited.
- Apply spray at the lowest height that is consistent with pest control objectives.

### STORAGE AND DISPOSAL

**Pesticide Storage:** Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place.

**Product Disposal:** Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.

**Nonrefillable Rigid Plastic and Metal Containers (Capacity Equal to or Less Than 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 and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Rigid Plastic and Metal Containers (Capacity Greater Than 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 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. 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, for plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Rigid Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down):** Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a

minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**All Refillable Containers: refillable container. Refilling Container:** refill this container with ASSURE II containing quinalofop p-ethyl only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use container, contact Chemtrec at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact Chemtrec at the number below for instructions. Disposing of Container: Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Do not transport if container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact Chemtrec at 1-800-424-9300 .

#### **LIMITED WARRANTY AND DISCLAIMER**

The manufacturer warrants (a) that this product conforms to the chemical description on the label; and (b) that the directions, warnings, and other statements on this label are based upon responsible experts' evaluations of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants and residues on food crops, and upon reports of field experience. Tests have not been made on all varieties of food crops and plants, or in all states or under all conditions. THIS WARRANTY DOES NOT EXTEND TO THE USE OF THIS PRODUCT CONTRARY TO LABEL INSTRUCTIONS, OR UNDER CONDITIONS NOT REASONABLY FORESEEABLE.

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