

Drexel®

# UP-Front™

## Herbicide

For control of certain grasses and broadleaf weeds in Cotton and Soybeans.

**ACTIVE INGREDIENTS:**

|   |       |
|---|-------|
| Metolachlor.....                            | 46.4% |
| Fomesafen (in the form of sodium salt)..... | 10.2% |

**OTHER INGREDIENTS:** ..... 43.4%

**TOTAL:** ..... 100.0%

This product contains 4.34 pounds of Metolachlor and 0.95 pound of Fomesafen active ingredients per gallon.

## 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 the label, find someone to explain it to you in detail.

**See FIRST AID Below**

EPA Reg. No. 19713-677

Net Content:

EPA Est. No. 19713-XX-X

2.5 Gals. (9.46 L)

**FIRST AID****IF IN EYES:**

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

**IF SWALLOWED:**

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything to an unconscious person.

**IF ON SKIN OR CLOTHING:**

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

**IF INHALED:**

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

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also call CHEMTREC at 800-424-9300 for emergency.

**NOTE TO PHYSICIAN:** For exposure to eyes, symptomology may include corneal and iris involvement with full recovery expected. Probable mucosal damage may contraindicate the use of gastric lavage.

**PRECAUTIONARY STATEMENTS****Hazards to Humans and Domestic Animals**

**DANGER:** Corrosive. Causes irreversible eye damage. Harmful if swallowed. Do not get in eyes or on clothing. May cause skin sensitization reactions in some people.

(Continued)

### PRECAUTIONARY STATEMENTS (Cont.)

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**Mixers, loaders applicators and other handlers must wear:**

Coveralls over short-sleeved shirt and short pants, chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyethylene, PVC or viton, chemical-resistant footwear plus socks, chemical-resistant headgear for overhead exposure, protective eyewear (goggles or face shield) and chemical-resistant apron when cleaning equipment, mixing or loading.

Discard clothing and 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.

Mixers and loaders supporting aerial applications are required to use closed systems. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)]. When using the closed system, the mixers and loaders PPE requirements may be reduced or modified as specified in the WPS.

**ENGINEERING CONTROLS**

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the 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.

**USER SAFETY RECOMMENDATIONS**

**Users should:** 1) Wash hands thoroughly before eating, drinking, chewing gum, using tobacco or using the toilet. 2) Remove clothing/ PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. 3) 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.

**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 washwater or rinsate. Do not apply when weather conditions favor drift from target area.

**GROUNDWATER ADVISORY**

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

Manufactured By:

**Drexel Chemical Company**

P.O. Box 13327, Memphis, TN 38113-0327

**SINCE 1972**

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## SURFACE WATER ADVISORY

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

## MIXING/LOADING INSTRUCTIONS

Care must be taken when using this product to prevent back siphoning into wells, spills or improper disposal of excess pesticide spray mixtures or rinsates. Check-valves or anti-siphoning devices must be used on all mixing and/or irrigation equipment. This product may not be mixed or loaded within 50 feet of perennial or intermittent streams and rivers, natural or impounded lakes and reservoirs. This product may not be mixed/loaded or used within 50 feet of all wells, including abandoned wells, drainage wells and sink holes. Operations that involve mixing, loading, rinsing or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well are prohibited, unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or washwater and rain water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site.

## RESISTANCE MANAGEMENT

### GROUP 14 | 15 HERBICIDES

This product is both a Group 14 and a Group 15 herbicide. Any weed population may contain or develop plants naturally resistant to Group 14 and/or Group 15 herbicides. Weed species with acquired resistance to Group 14 and/or Group 15 herbicides may eventually dominate the weed population if Group 14 and/or Group 15 herbicides are used repeatedly in the same field or in successive years as primary method of control for targeted species. This may result in partial or total loss of control of those species by this product or other Group 14 and/or Group 15 herbicides.

To delay herbicide resistance, consider:

- Avoiding the consecutive use of this product or other target site of action Group 14 and/or Group 15 herbicides that have a similar target site of action on the same weed species.
- Using tank-mixtures or pre-mixes with herbicides from different target site of action Groups as long as the involved products are all registered for the same use, have different sites of action and are both effective at the tank-mix or pre-pack rate on the weed(s) of concern.
- Basing herbicide use on a comprehensive IPM program.
- Monitoring treated weed populations for loss of field efficacy.
- Contacting your local extension specialist, certified crop advisors and/or manufacturer for herbicide resistance management and/or integrated weed management recommendations for specific crops and resistant weed biotypes.

## 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 with the Worker Protection Standard (WPS) 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 24 hours.

**Exception:** If the product is soil-injected or soil-incorporated, the WPS under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated. For early entry to treated areas that is permitted under the WPS and that involves contact with anything that has been treated, such as plants, soil or water wear: Coveralls over short-sleeved shirt and short pants, chemical-resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber, polyethylene, PVC or viton, chemical-resistant footwear plus socks and protective eyewear (goggles or face shield).

**FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL, CROP INJURY OR ILLEGAL RESIDUES.**

**NOTE: NOT FOR SALE, USE OR DISTRIBUTION IN NASSAU COUNTY OR SUFFOLK COUNTY, NEW YORK**

## PRODUCT INFORMATION

UP-FRONT is a selective herbicide for the control or partial control of labeled grass, broadleaf and sedge weeds in Cotton and Soybeans. Metolachlor and Fomesafen herbicides may be applied as a pre-plant surface, pre-plant incorporated, pre-emergence or post-emergence treatment.

This product is a mixture of the active ingredients, Metolachlor and Fomesafen. Metolachlor is a biosynthesis inhibitor (Group 15 mode of action) preventing cell division in emerging weeds. Fomesafen is a protoporphyrinogen oxidase inhibitor (Group 14 mode of action) leading to cellular membrane disruption and plant death.

## MIXING INSTRUCTIONS

Do not prepare more spray mixture than is needed for the immediate operation. Thoroughly clean the spray equipment before using this product. Vigorous agitation is necessary to maintain uniformity of the spray mixture. Maintain maximum agitation throughout the spraying operation. Do not allow spray mixture to stand overnight in the spray tank. Flush the spray equipment thoroughly following each use and apply the rinsate to a previously treated area.

## APPLICATION IN WATER OR FLUID FERTILIZERS

### THIS PRODUCT ALONE:

Add one-third of the required amount of water or fluid fertilizer to the spray or mixing tank. With the agitator running, add this product into the spray tank. Continue agitation while adding the remainder of the water or fluid fertilizer. Begin application of the spray solution after this product has completely dispersed in the water or fluid fertilizer. Maintain agitation until all of the mixture has been applied.

### TANK-MIXTURES\*:

Add one-third of the required amount of water or fluid fertilizer to the mix tank. Start the agitator running before adding any tank-mix partners. In general, tank-mix partners should be added in this order: products packaged in water-soluble packaging, wettable powders, wettable granules (dry flowables), liquid flowables, liquid such as this product and emulsifiable concentrates. Always allow each tank-mix partner to become fully dispersed before adding the next product. Provide sufficient agitation while adding the remainder of the water. Maintain agitation until all of the mixture has been applied.

**Note:** (1) When using this product in tank-mixtures, all products in water-soluble packaging should be added to the tank and mixed with plain water before any other tank-mix partner, including this product. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank-mix partner to the tank. (2) Water-soluble packets will not properly dissolve in most spray solutions that contain fluid fertilizers.

\*If using this product in a tank-mixture, observe the most restrictive of all directions for use, crop/sites, use rates, dilution ratios, precautions and limitations that appear on the tank-mix product label. Do not exceed labeled dosage rates for any product and follow the most

restrictive label precautions and limitations of all products mixed. This product is compatible with most common tank-mix partners. However, the physical compatibility of this product with tank-mix partners should be tested before use. To determine the physical compatibility of this product with other products, use a jar test, as described below.

**It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank-mixture.**

**Note:** Do not use nitrogen solutions or fluid fertilizers as a complete or partial spray carrier when applying this product as a post-emergence application to Soybeans as these combinations may cause crop injury.

#### COMPATIBILITY TEST:

A jar test is recommended before tank-mixing to ensure compatibility of this product with other pesticides. The following test assumes a spray volume of 25 gallons per acre. For other spray volumes, make appropriate changes in the ingredients.

**Note:** Nitrogen solutions or complete fluid fertilizers may replace all or part of the water in the spray for pre-plant surface, pre-plant incorporated or pre-emergence applications only. Because liquid fertilizers vary, even within the same analysis, always check compatibility with pesticide(s) before use. Incompatibility of tank-mixtures is more common with suspensions of fertilizer and pesticides.

#### Test Procedure:

1. Add 1 pint of carrier (fertilizer or water) to each of 2 one-quart jars with tight lids. **Note:** Use the same source of water that will be used for the tank-mix and conduct the test at the temperature the tank-mix will be applied
2. To one of the jars, add one-fourth teaspoonful or 1.2 milliliters of a compatibility agent approved for this use (one-fourth tsp. is equivalent to 2 pts./100 gals. spray). Shake or stir gently to mix.
3. To both jars, add the appropriate amount of pesticide(s) in their relative proportions based on specified label rates. If more than one pesticide is used, add them separately with dry pesticides first, flowables next and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix.
4. After adding all ingredients, put lids on and tighten and invert each jar ten times to mix. Let the mixtures stand 15 to 30 minutes and then look for separation, large flakes, precipitates, gels, heavy oily film on the jar or other signs of incompatibility. Determine if the compatibility agent is needed in the spray mixture by comparing the two jars. If either mixture separates but can be remixed readily, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (a) Slurry the dry pesticide(s) in water before addition or (b) add one-half of the compatibility agent to the fertilizer or water and the other one-half to the emulsifiable concentrate or flowable pesticide before addition to the mixture. If incompatibility is still observed, do not use the mixture.
5. After compatibility testing is complete, dispose of any pesticide wastes in accordance with the "STORAGE AND DISPOSAL" section in this label.

## APPLICATION DIRECTIONS

### ACTIVATION

A small amount of soil moisture is required to activate this product following application. In areas of low rainfall, a pre-emergence application to dry soil should be followed with light irrigation of 0.25 to 0.5 inch of water. As with many surface applied herbicides, weed control and crop tolerance may vary with rainfall and/or soil texture. If rainfall or irrigation within 7 to 10 days does not occur, cultivate uniformly with shallow tilling equipment such as a rotary hoe that will not damage Soybeans.

### GROUND SPRAY EQUIPMENT

Apply this product alone or in tank-mixtures by ground equipment in a minimum of 10 gallons of spray mixture per acre, unless otherwise specified.

Use sprayers that provide accurate and uniform application. Calibrate the sprayer before use at the beginning of the season. For mixtures with wettable powder or dry flowable formulations, screens and strainers should be no finer than 50 mesh.

### BAND APPLICATIONS

Calculate the amount of herbicide needed for band treatment by the formula:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast rate per acre} = \text{Amount needed per acre of field}$$

### CHEMIGATION

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

## AERIAL APPLICATION

Apply this product in water using a minimum spray volume of 5 gallons per acre. Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. Make applications at a maximum height of 10 feet above the Soybeans with low drift nozzles at a maximum pressure of 40 psi.

Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

## AERIAL DRIFT MANAGEMENT

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off target drift movement from aerial applications to agricultural field crops:

1. The distance of the outermost nozzles on the boom must not exceed three-fourths the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.

Where States have more stringent regulations, they should be observed. The applicator should be familiar with and take into account the information covered in the "AERIAL DRIFT REDUCTION ADVISORY INFORMATION" section below.

## AERIAL DRIFT REDUCTION ADVISORY INFORMATION

### Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. 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").

### Controlling Droplet Size

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure - Do not exceed the nozzle manufacturers recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of Nozzles - Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the air stream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

### Boom Length

For some use patterns reducing the effective boom length to less than three-fourth of the wingspan or rotor length may further reduce drift without reducing swath width.

### Application Height

Applications should not be made at a height greater than 10 feet above the top of the largest plants, unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

### Wind

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.



## Temperature and Humidity

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

## Temperature Inversions

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

## Sensitive Areas

This product should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

## TO PREVENT OFF SITE MOVEMENT DUE TO RUNOFF OR WIND EROSION

- Avoid treating powdery dry or light *sand soils* when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
- Do not apply to impervious substrates such as paved or highly compacted surfaces.
- Do not use tail water from the first flood or furrow irrigation of treated fields to treat non-target crops, unless at least 0.5 inch of rainfall has occurred between application and the first irrigation.

## CLEANING EQUIPMENT AFTER APPLICATION

Because some crops other than Soybeans are sensitive to low rates of this product, special attention must be given to cleaning equipment before spraying a crop other than those registered for use and on this label. Mix only as much spray solution as needed. Immediately after spraying, clean equipment thoroughly using the following procedure:

1. Flush tank, hoses, boom and nozzles with clean water.
2. Prepare a cleaning solution of 1 gallon of household ammonia per 50 gallons of water. Many commercial spray tank cleaners may be used as well. Consult your representative for a partial listing of approved tank cleaners and more information about proper tank cleaning procedures. Do not use chlorine based cleaners such as Clorox®.
3. When available, use a pressure washer to clean the inside of the spray tank with this solution. Take care to wash all parts of the tank including the inside top surface. Completely 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 sprayer and thoroughly recirculate the cleaning solution for at least 15 minutes. All visible deposits must be removed from the spraying system.
4. Flush hoses, spray lines and nozzles for at least one minute with the cleaning solution.
5. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Do not apply when weather conditions favor drift from target area.
6. Repeat steps 2 and 5.
7. Remove nozzles, screens, diaphragm check valves and strainers and clean separately in the ammonia cleaning solution after completing the above procedures.
8. Rinse the complete spraying system with clean water.

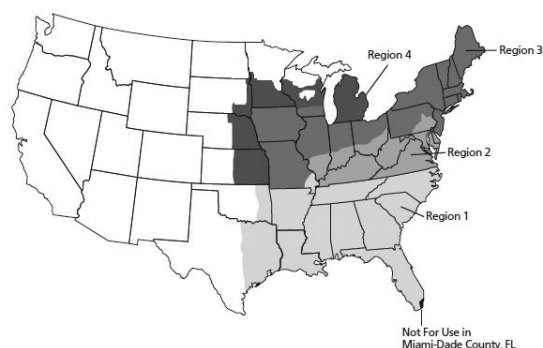
## USE PRECAUTION

- Avoid overlapping spray swaths as injury may occur to rotational crops.

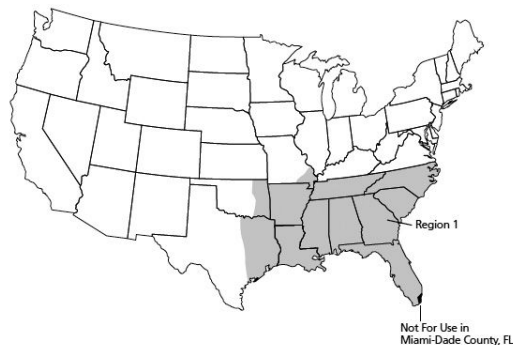
## USE RESTRICTIONS

- A maximum of 3 pints of this product (or a maximum of 0.375 lb. a.i./Ac. of Fomesafen from any product containing Fomesafen) may be applied per acre per year in Region 1 (see "REGIONAL USE MAP").
- A maximum of 3 pints of this product (or a maximum of 0.375 lb. a.i./Ac. of Fomesafen from any product containing Fomesafen) may be applied per acre in **ALTERNATE** years in Region 2 (see "REGIONAL USE MAP").
- A maximum of 2.5 pints of this product (or a maximum of 0.313 lb. a.i./Ac. of Fomesafen from any product containing Fomesafen) may be applied per acre in **ALTERNATE** years in Region 3 (see "REGIONAL USE MAP").
- A maximum of 2 pints of this product (or a maximum of 0.25 lb. a.i./Ac. of Fomesafen from any product containing Fomesafen) may be applied per acre in **ALTERNATE** years in Region 4 (see "REGIONAL USE MAP").
- Do not graze treated areas or harvest for forage or hay.
- Do not exceed 2.75 pounds active ingredient per acre per year of Metolachlor from applications of this product or any other Metolachlor containing products

## USE RATES AND WEEDS CONTROLLED REGIONAL USE MAP



### REGION 1 (Maximum Rate: 3 pts. / Ac. per year)



**REGION 1:** Includes the following States or portion of States where this product may be applied: Alabama, Arkansas, Florida (except Miami Dade County), Georgia, Louisiana, Mississippi, Missouri (counties of Bollinger, Butler, Cape Girardeau, Dunklin, Madison, Mississippi, New Madrid, Pemiscot, Perry, Ripley, Scott, Stoddard and Wayne), North Carolina, Oklahoma (East of U.S. Highway 75 and East of Indian Nation Parkway), South Carolina, Tennessee and Texas (includes area East of U.S. Highway 77 to State Road 239 including all of Calhoun County).

## REGION 2

(Maximum Rate: 3 pts. / Ac., alternate years)



**REGION 2:** Includes the following States or portion of States where this product may be applied: Delaware, Kentucky, Maryland, Virginia, West Virginia, South of Interstate 70 in the following States: Illinois, Indiana and Ohio and all areas South of Interstate 80 to the intersection of U.S. Highway 15 and East of U.S. Highway 15 and U.S. Highway 522 in Pennsylvania.

## REGION 3

(Maximum Rate: 2.5 pts. / Ac., alternate years)



**REGION 3:** Includes the following States or portion of States where this product may be applied: Connecticut, Iowa, Maine, Massachusetts, Missouri (all counties except for those listed in Region 1), New Hampshire, New Jersey, New York, Pennsylvania (all areas except those listed in Region 2), Rhode Island, Vermont and Wisconsin (South of U.S. Highway 18 between Prairie Du Chien and Madison and South of Interstate 94 between Madison and Milwaukee) and North of Interstate 70 in the following States: Indiana, Illinois and Ohio.

## REGION 4

(Maximum Rate: 2 pts. / Ac., alternate years)



**REGION 4:** Includes the following States or portion of States where this product may be applied: Kansas (all counties East of or intersected by U.S. Highway 281), Michigan (Southern Peninsula), Minnesota (all areas South of Interstate 94), Nebraska (all counties East of or intersected by U.S. Highway 281) and Wisconsin (all areas except those in Region 3 South of Interstate 94 from Minnesota State line to Eau Claire and South of U.S. Highway 29 from Eau Claire to Green Bay plus Door and Kewaunee counties. The following counties are excluded: Clark, Marathon, Wood, Portage, Adams, Shawano, Waupaca, Waushara and Marquette). North Dakota (all areas East of Interstate 29 from Fargo South to the South Dakota State line); South Dakota (all areas East of Interstate 29 from the North Dakota State line to Watertown, all areas East of Highway 81 from Watertown to Madison and all areas East and South of State Road 34 and U.S. Highway 281 to the Nebraska State line).

## REPLANTING

If replanting is necessary in fields previously treated with this product, the field may be replanted to Soybeans. During planting, a minimum of tillage is recommended. Do not apply a second application of this product or any product that contains Metolachlor or Fomesafen as crop injury or illegal residues may occur in harvested Soybeans.

## ROTATIONAL CROPS

Do not rotate to food or feed crops other than those listed below.

**Table 1. Crop Rotation Intervals Following Applications of This Product**

| Minimum Rotational Interval Following Applications of This Product* |         |                               |   |  |
|---|---------|-------------------------------|---|--|
| 0 Months  | 1 Month | 4.5 Months                    | 10 Months   | 18 Months  |
| Dry bean<br>Snap bean<br>Soybean                                    | Cotton  | Barley<br>Oat<br>Rye<br>Wheat | Corn**<br>Peanut<br>Pea<br>Pepper<br>Rice<br>Tomato | To avoid crop injury, do not plant Alfalfa, Sorghum***, Sugar beet, Sunflower or any other crops within 18 months. |

Do not graze rotated small grain crops or harvest forage or straw for livestock.

\* Cover crops for soil building or erosion control may be planted any time, but do not graze or harvest for food or feed. Stand reductions may occur in some areas.

\*\* Use a 12 month minimum rotation interval for Popcorn in the States of Ohio, Kentucky, Illinois, Indiana Iowa and Region 4 when applied at 2 pts. / Ac. or greater.

\*\* Use 18 month minimum rotation interval for Sweet corn in the States of Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island and Vermont.

\*\*\* Sorghum may be planted back after 10 months in Region 1.

## RATE RANGES

Where a rate range is within a soil texture/organic matter classification, use a lower rate on soils that are relatively *Coarse textured* and/or low in organic matter. Use a higher rate on soils that are relatively *Fine textured* and/or high in organic matter. This product when applied as directed will control or partially control the following weeds:

**Table 2. Weeds Controlled or Partially Controlled by This Product**

| Weed                      | C= Control<br>PC= Partial<br>Control* |
|---------------------------|---------------------------------------|
| <b>Annual Grasses</b>     |                                       |
| Barnyard grass            | C                                     |
| Crabgrass spp.            | C                                     |
| Crowfoot grass            | C                                     |
| Cupgrass, Prairie         | C                                     |
| Cupgrass, Southwestern    | C                                     |
| Foxtail spp.              | C                                     |
| Goose grass               | C                                     |
| Johnsongrass seedling     | PC                                    |
| Jungle rice               | C                                     |
| Panicum, Fall             | C                                     |
| Panicum, Texas            | PC                                    |
| Red rice                  | PC                                    |
| Sandbur spp.              | PC                                    |
| Shattercane               | PC                                    |
| Signal grass, Broadleaf   | C                                     |
| Witchgrass                | C                                     |
| <b>Broadleaves</b>        |                                       |
| Carpeweed                 | C                                     |
| Cocklebur, Common         | PC                                    |
| Eclipta                   | C                                     |
| Galinsoga spp.            | C                                     |
| Horseweed/Marestail       | PC                                    |
| Jimsonweed                | PC                                    |
| Lambsquarters, Common     | C                                     |
| Morningglory spp.         | PC                                    |
| Nightshade, Eastern black | C                                     |
| Nightshade, Hairy         | PC                                    |
| Pennycress, Field         | C                                     |
| Pepper weed, Virginia     | C                                     |
| Pigweed spp.              | C                                     |
| Poinsettia, Wild          | C                                     |
| Purslane, Common          | C                                     |
| Pusley, Florida           | C                                     |
| Ragweed, Common           | C                                     |
| Ragweed, Giant            | PC                                    |
| Red weed                  | C                                     |

(Continued)

| (Cont.)  |                                    |
|--|------------------------------------|
| Weed   | C= Control<br>PC= Partial Control* |
| Sida, Prickly/Tea weed   | PC                                 |
| Smartweed, Ladys thumb   | C                                  |
| Smartweed, Pennsylvania  | C                                  |
| Spurge, Spotted  | C                                  |
| Starbur, Bristly   | C                                  |
| Sunflower, Common  | PC                                 |
| Velvetleaf   | PC                                 |
| Water hemp, spp.   | C                                  |
| <b>Sedges</b>  |                                    |
| Nutsedge, Yellow   | PC                                 |
| *Partial control means significant activity but not always at a level considered acceptable for commercial weed control. |                                    |

## COTTON

### POST-DIRECTED APPLICATION

Apply this product in emerged Cotton as a post-directed treatment using precision post-directed, hooded or shielded application equipment to provide complete coverage of emerged weeds. Apply this product at 2 to 2.33 pints per acre. This product will control or partially control certain emerged broad leaf weeds such as Hemp sesbania, Water hemp, Pigweed species and Morningglory species. Apply when broadleaf weeds have 2 to 4 true leaves in a minimum of 10 gallons spray solution per acre.

This product should be applied with a non-ionic surfactant at 0.25 to 0.5% v/v or crop oil concentrate at 1% v/v to emerged weeds if applied alone or in a tank-mix with products that do not contain a built-in adjuvant. Do not add liquid nitrogen (28% or similar) to this product or tank-mixes containing this product in Cotton. Refer to **Table 2** for weeds controlled or partially controlled with soil activation of this product if rainfall or irrigation occurs within 7 to 10 days after application.

To broaden the weed control spectrum, this product may be tank-mixed with other labeled post-directed herbicides such as Diuron, Glyphosate (for use in Glyphosate tolerant Cotton only), Linuron, MSMA, Prometryn or Trifloxysulfuron. **It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank-mixture.**

Cotton foliage is not tolerant to applications of this product. Avoid contact to Cotton foliage and stems that are not fully barked as unacceptable injury will occur. Application equipment should be calibrated (spray pressure, nozzle type and configuration and orifice size) to avoid fine spray droplets contacting green Cotton stems and foliage.

### POST-DIRECTED APPLICATION TIMING IN COTTON

This product may be applied to Cotton at least 6 inches in height through lay-by as a post-directed application. All post-directed applications should avoid spray contact with any green non-barked parts of the Cotton plant or foliage as unacceptable injury will occur. Follow the application timing directions below for post-directed applications in Cotton.

### SHIELDED AND HOODED APPLICATIONS

Make a precision post-directed application of this product to the base of the Cotton plant avoiding contact with the Cotton stem or foliage when Cotton is at least 6 inches in height to avoid Cotton injury. Use only hooded or shielded spray equipment to apply this product in Cotton that is at least 6 inches in height. Adjust nozzles to provide full coverage of emerged target weeds.

### LAY-BY APPLICATIONS

Make a post-directed application of this product to the base of the Cotton plant avoiding contact with any non-barked portion of the Cotton plant or foliage. Use precision post-directed equipment or hooded or shielded sprayers on Cotton that has developed a minimum of 4 inches of brown bark through lay-by. Application equipment should be configured to provide full coverage of emerged target weeds.

### USE RESTRICTIONS - COTTON

- Do not apply this product later than 80 days before harvest.
- Do not apply more than 2.33 pints per acre of this product in any year and also adhere to the maximum rate that may be applied in each geographic region (refer to the "REGIONAL USE MAP").
- Do not graze or feed forage or fodder from Cotton to livestock.

## SOYBEANS

### FOUNDATION TREATMENT FOR PLANNED TWO-PASS WEED CONTROL PROGRAMS IN ALL TILLAGE SYSTEMS

This product at 2 pints per acre may be applied as a pre-emergence application on all soils to reduce competition from weeds for a period of up to 5 weeks when followed by a planned post-emergence herbicide application in conventional and Glyphosate tolerant Soybeans. Refer to **Table 2** for weeds controlled or partially controlled by this product. For the post-emergence herbicide application, consult the label of the selected post-emergence herbicide for weeds controlled, optimum weed size, application rate, additional use directions, precautions and limitations before use.

### PRE-PLANT SURFACE APPLIED

For minimum-tillage or no-tillage systems only, this product may be applied at 2 pints per acre prior to Soybean planting. If weeds are present at the time of treatment, apply this product in a tank-mixture with a burndown herbicide (such as Paraquat or Glyphosate). To the extent possible, minimize movement of treated soil out of the row or untreated soil to the surface during planting or weed control will be diminished. Follow with a post-emergence herbicide applied at the labeled rate and within the specific growth stage for Soybeans and weed spectrum. Post-emergence treatments include any product or combination of products labeled to control the specific weeds remaining in the field including Glyphosate (for use on Glyphosate tolerant Soybeans only).

### PRE-PLANT INCORPORATED

Apply this product at 2 pints per acre in conventional tillage systems where incorporation into the top 2 inches of soil occurs within 7 days after application using a finishing disk, harrow, rolling cultivator or similar implement capable of providing uniform 2 inch incorporation. Follow with a post-emergence herbicide applied at the labeled rate and within the specific growth stage for Soybeans and weed spectrum. Post-emergence treatments include any product or combination of products labeled to control the specific weeds remaining in the field including Glyphosate (for use on Glyphosate tolerant Soybeans only).

### PRE-EMERGENCE

Apply this product at 2 pints per acre during planting (behind the planter) or after planting, but before weeds or Soybeans emerge in conventional, conservation or no-till systems. If weeds are present at the time of treatment, apply this product in a tank-mixture with a burndown herbicide such as Paraquat or Glyphosate. Follow with a post-emergence herbicide applied at the labeled rate and within the specific growth stage for Soybeans and weed spectrum. Post-emergence treatments include any product or combination of products labeled to control the specific weeds remaining in the field including Glyphosate (for use on Glyphosate tolerant Soybeans only) or Glufosinate (Glufosinate tolerant Soybeans only).

### CONVENTIONAL TILLAGE SYSTEMS

For conventional tillage systems, this product may be applied pre-plant incorporated or pre-emergence for control or partial control of weeds listed in **Table 2**. This product may be applied alone or in tank-mix or followed sequentially with post-emergence herbicides to broaden the weed control spectrum or control newly emerged weeds. Refer to **Table 3** for use rates for this product.

### PRE-PLANT INCORPORATED APPLICATION

Incorporate this product uniformly into the top 2 inches of soil within 7 days after application and before planting using a disk, field cultivator, rolling cultivator or similar implement. Apply this product pre-plant incorporated if furrow irrigation is used or when a period of dry weather after application is expected.

### PRE-EMERGENCE APPLICATION

Apply during planting (behind the planter) or after planting, but before weeds or Soybeans emerge. Dry weather following pre-emergence applications of this product may reduce effectiveness. If weeds develop, cultivate uniformly with shallow tilling equipment such as a rotary hoe that will not damage Soybeans.



**Table 3. Use Rates – Conventional Tillage Systems (Broadcast Rates)**

| Soil Texture   | Regions | Pts. / Ac.               |                     |
|--|---------|--------------------------|---------------------|
|  |         | 0.5 to 3% Organic Matter | > 3% Organic Matter |
| COARSE (Sand, Loamy sand, Sandy loam)  | 1, 2    | 2                        | 2 to 2.25           |
|  | 3       | 2                        | 2 to 2.25           |
|  | 4       | 2                        | 2                   |
| MEDIUM (Loam, Silt loam, Silt)   | 1, 2    | 2.25 to 2.5              | 2.5 to 2.75         |
|  | 3       | 2 to 2.25                | 2.25 to 2.5         |
|  | 4       | 2                        | 2                   |
| FINE (Sandy clay loam, Sandy clay, Silty clay, Silty clay loam, Clay, Clay loam) | 1, 2    | 2.75 to 3                | 2.75 to 3           |
|  | 3       | 2.5*                     | 2.5*                |
|  | 4       | 2*                       | 2*                  |

\* If weeds emerge before full canopy closure, apply an appropriate post-emergence product.

## USE RATES FOR REDUCED AND NO-TILL SYSTEMS

### Pre-plant Surface and Pre-emergence Application

This product may be used in reduced-till and no-till systems. This product may be applied up to 15 days before planting or pre-emergence but before Soybean emergence. For control or partial control of weeds listed in **Table 2**, use the high end of the rate range for applications of this product, made 15 days before planting. Refer to **Table 4** for rates. If weeds are present at time of application, burndown herbicides may be tank-mixed with this product (see "BURNDOWN WEED CONTROL" section). This product may be followed sequentially with post-emergence herbicides to broaden the weed control spectrum or control newly emerged weeds.

**Table 4: Use Rates for Reduced-Till and No-Till Systems (Broadcast Rates)**

| Soil Texture   | Regions | Pts. / Ac.* |
|--|---------|-------------|
| COARSE (Sand, Loamy sand, Sandy loam)  | 1, 2    | 2 to 2.5    |
|  | 3       | 2 to 2.25   |
|  | 4       | 2**         |
| MEDIUM (Loam, Silt loam, Silt, Sandy clay, Sandy clay loam)                      | 1, 2    | 2.5 to 2.75 |
|  | 3       | 2.25 to 2.5 |
|  | 4       | 2**         |
| FINE (Sandy clay loam, Sandy clay, Silty clay, Silty clay loam, Clay, Clay loam) | 1, 2    | 2.75 to 3   |
|  | 3       | 2.5**       |
|  | 4       | 2**         |

\* If weeds emerge before full canopy closure, apply an appropriate post-emergence product.

\*\* Use the lower rate range for low residue level or soils with less than 3% organic matter. Use the higher rate range for high residue level or soils with greater than 3% organic matter.

## BURNDOWN WEED CONTROL

This product can be used as part of a burndown herbicide program for control of existing vegetation prior to Soybean planting and/or emergence in conservation tillage (reduced-tillage/no-till) systems. This product may be tank-mixed with Clethodim, 2,4-D Low Volatile Ester (LVE), Fluazifop, Fenoxaprop, Glyphosate, Paraquat or Sethoxydim for control of emerged weeds prior to Soybean planting or crop emergence. Refer to the tank-mix product labels for specific rates, use directions, precautions and limitations. Follow the most restrictive label.

## HERBICIDES THAT MAY BE APPLIED POST-EMERGENCE FOLLOWING THIS PRODUCT

If required, applications of this product alone or in tank-mixture may be followed by an application of a post-emergence herbicide to provide additional control of certain weeds. Post-emergence herbicides such as those listed below may be applied:

|               |               |                 |
|---------------|---------------|-----------------|
| Acifluorfen   | Fluazifop     | Lactofen        |
| Bentazon      | Flumiclorac   | Quizalofop      |
| Carfentrazone | Glufosinate** | Sethoxydim      |
| Chloransulam  | Glyphosate*** | Thifensulfuron* |
| Chlorimuron*  | Imazamox      | Tribenuron      |
| Clethodim     | Imazaquin     |                 |
| Fenoxaprop    | Imazethapyr   |                 |

\* Use on Sulfonyle-urea Tolerant (STS) Soybeans only.

\*\* Use on Glufosinate tolerant Soybeans only (e.g., LibertyLink® Soybeans).

\*\*\* Use on Glyphosate tolerant Soybeans only (e.g., Roundup Ready® Soybeans).

Refer to the above information and the individual product labels for use directions, use rates and special precautions and restrictions. Follow the most restrictive label.

## POST-EMERGENCE APPLICATION

This product may be applied at 2 to 2.33 pints per acre as an early post-emergence application in Soybeans. Necrotic spotting, bronzing, leaf crinkling or curling of Soybean leaves may occur following post-emergence application, but Soybeans soon outgrow these effects and develop normally. Refer to **Table 2** for weeds controlled or partially controlled with soil activation of this product if rainfall or irrigation occurs within 7 to 10 days after post-emergence application. This product alone may control or partially control certain emerged

broadleaf weeds, however, for broad spectrum control, tank-mix this product with Glyphosate (in Glyphosate tolerant Soybeans only). Add Non-Ionic Surfactant (NIS) containing at least 75% surface-active agent at 0.25% v/v to the final spray volume if this product is applied alone or tank-mixed with Glyphosate products that do not contain a built-in adjuvant. Do not use Crop Oil Concentrate (COC) when applying this product post-emergence as these spray adjuvants may increase Soybean injury.

## Tank-Mixtures for Post-emergence Applications in Soybeans

This product may be tank-mixed with Glyphosate products and applied post-emergence only on Glyphosate tolerant Soybeans. This product may be tank-mixed with insecticides including Lambda-cyhalothrin. Refer to the label of this product and the labels of the tank-mix partners for application methods and timings, precautionary statements, restrictions, rates and weeds or insects controlled. Follow the most restrictive label.

## Use Precautions for Post-emergence Application to Soybeans

- Apply only in water as the carrier for post-emergence applications.
- Do not use this product post-emergence on Soybeans that are under stress including but not limited to that caused by drought, insect, disease or injury from cultivation.

## Use Restrictions for Post-emergence Application to Soybeans

- Do not exceed 2.33 pints of this product per acre in a single post-emergence application.
- Do not exceed 3 pints of this product per acre per season. Refer to "REGIONAL USE MAP" for maximum rate that may be applied within a specific region.
- Do not exceed 2.75 pounds of Metolachlor active ingredient per year from applications of this product or any other Metolachlor containing products.
- Make post-emergence applications at least 90 days before harvest.
- Do not graze or feed treated forage or hay from Soybeans to livestock following a post-emergence application of this product.

## STORAGE AND DISPOSAL

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

**STORAGE:** Store in original container. This product will freeze at a temperature of approximately 5°F, but upon warming, will thaw out to a fully homogeneous product.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

## CONTAINER HANDLING:

**Nonrefillable Container (rigid material; less than 5 gallons):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container 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 one-fourth 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. Dispose of empty container in a sanitary landfill or by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (rigid material; 5 gallons up to < 250 gallons):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container one-fourth 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. Dispose of empty container in a sanitary landfill or by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

(Continued)

## **STORAGE AND DISPOSAL (Cont.)**

**Refillable Container (≥ 250 gallons & Bulk):** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by State and local authorities.

## **WARRANTY — CONDITIONS OF SALE**

OUR DIRECTIONS FOR USE of this product are based upon tests believed reliable. Follow directions carefully. Timing and method of application, weather and crop conditions, mixture with other chemicals not specifically directed and other influencing factors in the use of this product are beyond the control of the Seller. To the extent consistent with applicable laws, Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith. To the extent consistent with applicable laws, in no case shall the Manufacturer or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with directions given herewith. The foregoing is a condition of sale by the Seller and is accepted as such by the Buyer.