

**HERBICIDE** 

### **DuPont™ Alluvex™**

#### **HERBICIDE**

For preplant, preemergence, or burndown weed control in field corn **Active Ingredients** By Weight Rimsulfuron N-((4,6-dimethoxypyrimidin-2-yl)aminocarbonyl)-3-(ethylsulfonyl)-2-pyridinesulfonamide 16.7% Thifensulfuron-methyl Methyl 3-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl) amino]carbonyl]amino]sulfonyl]-2-thiophenecarboxylate 16.7% Other Ingredients 66.6% **TOTAL** 100.0% EPA REG. NO. 352-877 EPA Est. No. **Nonrefillable Container** Net: OR**Refillable Container** Net: \_\_

GROUP

## CAUTION

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**

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

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**IF SWALLOWED:** No specific intervention is indicated as the compound is not likely to be hazardous by ingestion. However, consult a poison control center or doctor if necessary.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION!** Avoid contact with skin, eyes, or clothing.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some of the materials that are chemical resistant to this product are listed below. If you want more options follow the instructions for category A on an EPA chemical-resistant category selection chart.

#### Applicators and other handlers must wear:

Long-sleeve shirt and long pants.

Chemical resistant gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all > 14 mils.

Shoes plus socks.

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 Control 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 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Important: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "Applicators and Other Handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

#### **USER SAFETY RECOMMENDATIONS**

**USERS SHOULD:** Wash hands before eating, drinking, chewing gum, using tobacco or using toilet. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. 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 by cleaning of equipment washwaters or rinsate.

#### **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 in your State responsible for pesticide regulation.

#### AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 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 Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all > 14 mils.

Shoes plus socks.

#### PRODUCT INFORMATION

DuPont<sup>TM</sup> ALLUVEX<sup>TM</sup> herbicide must be used only in accordance with instructions on this label or in supplemental DuPont publications. DuPont will not be responsible for losses or damage resulting from use of this product in any manner not specifically specified by DuPont.

ALLUVEX<sup>TM</sup> herbicide is a water soluble granule containing 33.4% active ingredient by weight. ALLUVEX<sup>TM</sup> is a selective herbicide for burndown and residual control of certain annual grass and broadleaf weeds when applied preplant or preemergence to field corn. Residual weed control is dependent on rainfall or sprinkler irrigation for herbicide activation. ALLUVEX<sup>TM</sup> herbicide may be applied in tank mixtures with other herbicides labeled for use in the intended crop. However, in the case of tank mixes with other herbicides, the most restrictive label must be followed.

ALLUVEX<sup>TM</sup> is absorbed through the roots and leaf tissue of plants, rapidly inhibiting the growth of susceptible weeds. Rainfall or sprinkler irrigation is needed to move ALLUVEX<sup>TM</sup> into the soil. Susceptible weeds will generally not emerge from preemergence application. In some cases susceptible weeds may germinate and emerge a few days after application, but growth then ceases and leaves become chlorotic three to five days after emergence. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

The herbicidal action of ALLUVEX<sup>TM</sup> may be less effective on weeds stressed from adverse environmental conditions (such as extreme temperatures or moisture), abnormal soil conditions, or cultural practices.

#### **RESTRICTIONS**

- Do not apply the organophosphate insecticide "Counter" within 60 days of a preplant or preemerge application of DuPont<sup>TM</sup> ALLUVEX<sup>TM</sup> since crop injury may result.
- Do not apply more than a total of 1.0 oz active ingredient rimsulfuron per acre per crop year to field corn from all sources. This includes combinations of preplant and preemergence applications of ALLUVEX<sup>TM</sup> and DuPont<sup>TM</sup> PREQUEL®, as well as rimsulfuron from postemergence application(s) of products such as DuPont<sup>TM</sup> REALM® Q, DuPont<sup>TM</sup> STEADFAST® Q or DuPont<sup>TM</sup> RESOLVE® Q.
- Do not plant any other crop besides corn, potatoes or soybeans the following season if applying ALLUVEX™ and following with PREQUEL®, REALM® Q, RESOLVE® Q or STEADFAST® Q.
- Do not apply preemergence on corn when planted to coarse textured soils (sand, loamy sand or sandy loam) with less than 1% organic matter.
- Do not apply postemergence to any crop.
- Do not graze, feed forage, grain or fodder (stover) from treated areas to livestock within 30 days of ALLUVEX<sup>TM</sup> application.

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

- Do not apply ALLUVEX<sup>TM</sup> or drain or flush application equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas.
- Do not contaminate any body of water.

#### **PRECAUTIONS**

- Allow at least 3 weeks between preemergence applications of ALLUVEX™ and postemergence applications of rimsulfuron containing products, such as REALM® Q, STEADFAST® Q, or RESOLVE® Q.
- ALLUVEX™ may interact with certain insecticides applied to soybean, cotton, or corn. Crop response varies with field crop, insecticide used, insecticide application method, and soil type.
- ALLUVEX<sup>TM</sup> may be applied to crops previously treated with "Fortress", "Aztec", or "Force" insecticides or other nonorganophosphate (OP) soil insecticides regardless of soil type.
- Preplant/Preemergence applications of ALLUVEX<sup>TM</sup> to corn where an application of "Lorsban", or "Thimet" is planned may cause unacceptable crop injury, especially on soils of less than 4% organic matter.
- Crop injury may occur following an application of ALLUVEX<sup>TM</sup> if there is a prolonged period of cold weather and/or in conjunction with wet soils.
- Prevent drift or spray to desirable plants.
- Thoroughly clean application equipment immediately after use. It is recommended to flush the sprayer system and recharge with clean water when there are extended periods between ALLUVEX<sup>TM</sup> applications. (See Sprayer Cleanup section of this label for instructions).

#### **APPLICATION INFORMATION**

#### Field Corn - Burndown-Preplant-Preemergence

#### Rate

Apply ALLUVEX<sup>TM</sup> at 1.5 ounces per acre.

See cumulative rimsulfuron rate limitations noted in this label.

Not all field corn varieties have been tested; nor does DuPont have access to all seed company data. Consequently; DuPont is not responsible for any crop injury arising from the use of ALLUVEX<sup>TM</sup> on field corn. When tank mixing check the tank mix partner label for tolerances and instructions for use. In addition; consult with your local DuPont representative or the DuPont Label Web Site (http://cropprotection.dupont.com/) for any additional supplemental labeling information relative to potential corn hybrid sensitivity to ALLUVEX<sup>TM</sup>.

#### **Timing to Crop**

ALLUVEX<sup>TM</sup> may be applied preplant in early spring up to planting, whenever the ground is not frozen, to control emerged weeds and to provide limited residual control of early-emerging weeds.

Additionally, ALLUVEX<sup>TM</sup> may be applied anytime after planting, but before corn emergence.

Do not apply postemergence to corn.

Control of emerged weeds will require the addition of spray adjuvants as noted in this label.

#### **Additional Control of Grasses and Broadleaves**

ALLUVEX<sup>TM</sup> may be tank mixed with full or reduced rates of labeled preplant/preemergence grass and broadleaf herbicides such as atrazine, DuPont<sup>TM</sup> CINCH® brands and DuPont<sup>TM</sup> BREAKFREE® brands to provide added residual activity or additional burndown activity on emerged weeds. Sequential applications of PREQUEL<sup>TM</sup>, CINCH® brands and

DuPont<sup>TM</sup> BREAKFREE® brands may also be made following preplant applications of DuPont<sup>TM</sup> ALLUVEX<sup>TM</sup>. Consult tank mix partner labeling for rate and soil-type restrictions.

#### **Sequential Application**

ALLUVEX<sup>TM</sup> may be used in a sequential herbicide program for corn. Apply ALLUVEX<sup>TM</sup> for burndown and residual weed control, followed by a post, in-crop application of DuPont<sup>TM</sup> REALM<sup>TM</sup> Q, DuPont<sup>TM</sup> RESOLVE® Q or DuPont<sup>TM</sup> STEADFAST® Q herbicides. Refer to the appropriate product label for use restrictions, application information, rotational crop guidelines, and cautionary statements prior to application.

If following ALLUVEX<sup>TM</sup> with another rimsulfuron containing product such as DuPont<sup>TM</sup> PREQUEL®, REALM® Q, RESOLVE® Q or STEADFAST®, only plant corn, potatoes or soybeans the following season.

#### **SPRAY ADJUVANTS**

For control of emerged weeds, application of ALLUVEX<sup>TM</sup> must contain an appropriate adjuvant. When applied in tank mix combination with a glyphosate (such as ABUNDIT® Extra) or glufosinate herbicide that contains a built-in adjuvant system, no additional surfactant needs to be added. Consult local DuPont fact sheets, technical bulletins, and service policies prior to using other adjuvant systems. Products must contain only EPA-exempt ingredients.

#### Petroleum Crop Oil Concentrate (COC) or Modified Seed Oil (MSO)

- Apply at 1% v/v (1 gallon per 100 gallons spray solution) or 2% under arid conditions.
- MSO adjuvants may be used at 0.5% v/v (0.5 gallon per 100 gallons spray solution) if specifically noted on adjuvant product labeling.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.

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

- Apply at 0.25% v/v (1 qt per 100 gal spray solution).
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

#### Ammonium Nitrogen Fertilizer

In addition to a spray adjuvant, an ammonium nitrogen fertilizer may be used.

• Use 2 qt/acre of a high-quality urea ammonium nitrate (UAN) such as 28%N or 32%N, or 2 lb/acre of a spray-grade ammonium sulfate (AMS).

#### **Special Adjuvant Types**

• Combination adjuvant products may be used at doses that provide the required amount of NIS and ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.

#### WEEDS CONTROLLED/SUPPRESSED

DuPont<sup>TM</sup> ALLUVEX<sup>TM</sup> should be tank mixed with glyphosate (such as ABUNDIT® Extra herbicide), paraquat, glufosinate, saflufenacil, 2,4-D LVE, and/or dicamba herbicides for improved control of emerged weed species when applied preplant or preemergence. For application methods and other use specifications; use the most restrictive label directions for the intended combination.

Grasses and Broadleaves	Burn down ALLUVEX <sup>TM</sup> Alone*	Burn down when ALLUVEX <sup>TM</sup> tank mixed with glyphosate
Alfalfa,volunteer	С	C
Barley, volunteer	С	С
Barnyardgrass	С	С
Bindweed, field	S	С
Bluegrass, annual	С	С
Buckwheat, common	С	С
Buttercup, smallflower	C	C
Canola, volunteer	C 5	C <sup>5</sup>
Carpetweed	NC	С
Canada thistle	S	C
Chamomile, false	S	С
Chickweed (common, mouseear)	C	C
Cocklebur	S	C
Common mallow	S	C
Crabgrass	$C^{1}$	C
Cupgrass, woolly (1")	C	C
Curly Dock	C	C
Dandelion (6" diameter)	C	C
Eveningprimrose, cutleaf	$C^2$	C
Field pennycress	C	C
Filaree, redstem	NC NC	C
Foxtail (bristly, giant, green, yellow)	C	C
Geranium, Carolina	C	C
Groundsel, common	C	C
Henbit	C	C
Knotweed, prostrate	C	C
Jimsonweed*		C
	NC S	C
Johnsongrass, seedling Kochia	C <sup>3</sup>	C
		C
Lambsquarters, common	C S	C
Marestail (Horseweed)		C
Millet, wild proso	S	
Morningglory, ivyleaf	S C	C C
Mustard (birdsrape, black) Mustard, wild	C	
· · · · · · · · · · · · · · · · · · ·		C
Nightshade, hairy	S	C
Nightshade, black	NC G	C
Palmer amaranth	S	S
Panicum, fall	C	C
Pigweed (prostrate, redroot, smooth)	C <sup>4</sup>	C
Purslane, common	S	C
Quackgrass	S	C
Ragweed, common	S	C
Russian thistle, seedling	S	С
Ryegrass, Italian	S <sup>4</sup>	C
Sandbur (field, longspine)	NC	С
Shattercane (4")	C	С
Shepherd's purse	С	C
Signalgrass, broadleaf	S	C
Smartweed, Pennsylvania	С	C
Smartweed, Ladysthumb	С	C
Stinkgrass	S	C
Velvetleaf	C	С
Wallflower, bushy	C	C
Wheat, volunteer	С	С
Wild buckwheat	S	С
Wild oat	S	С
Wild radish	С	С
Yellow nutsedge	S	С

C Control S Suppression NC No Control

<sup>\*</sup> If ALLUVEX<sup>TM</sup> is applied without a tank mix partner, grasses must be < 2", broadleaves < 3" in height

<sup>1 &</sup>lt; 1/2"

- 2 Must add 2.4D LVE or dicamba for control
- 3 ALS Sensitive kochia only
- 4 Resistant biotypes are known to occur
- 5 Will not control Clearfield varieties

Grasses and Broadleaves	Residual DuPont <sup>TM</sup> ALLUVEX <sup>TM</sup> Alone
Barley, volunteer	S
Barnyardgrass	С
Bluegrass, annual	S
Canola, volunteer	С
Carpetweed	S
Chamomile, false	С
Cocklebur	S
Crabgrass	S
Filaree, redstem	С
Foxtail (bristly, giant, green, yellow)	С
Henbit	С
Jimsonweed	S
Kochia	$C^{_1}$
Lambsquarters, common	С
Marestail (Horseweed)	С
Morningglory, ivyleaf	S
Mustard (birdsrape, black)	С
Nightshade, hairy	S
Palmer amaranth	S
Panicum, fall	S
Pigweed (prostrate, redroot, smooth)	С
Purslane, common	С
Ragweed, common	S
Russian thistle, seedling	S
Ryegrass, Italian	$S^2$
Signalgrass, broadleaf	С
Smartweed, Pennsylvania	S
Velvetleaf	S
Wheat, volunteer	С
Wild oat	S

- C Control S Suppression
- 1 ALS Sensitive kochia only
- 2 Resistant biotypes are known to occur

#### Mixing Instructions

#### **Fertilizer Carrier Instructions**

ALLUVEX<sup>TM</sup> may be dissolved in water and added to liquid fertilizer for preemergence application. When using liquid fertilizer as the carrier, always dissolve ALLUVEX<sup>TM</sup> in clean water before adding fertilizer solutions. Add the dissolved ALLUVEX<sup>TM</sup> solution to the final complete liquid fertilizer mixture – do not add ALLUVEX<sup>TM</sup> during the fertilizer mixing process.

Always use good agitation while adding the dissolved ALLUVEX<sup>TM</sup> solution to liquid fertilizers and maintain good agitation until sprayed. When using liquid fertilizer as the carrier, conduct a compatibility test with all components prior to mixing.

Do not use with spray additives or liquid fertilizer carriers that alter the pH of the spray solution below pH 5.0 or above pH 9.0 as rapid product degradation can occur. Spray solutions of pH 6.0 -8.0 allow for optimum stability of ALLUVEX<sup>TM</sup>.

#### **Water Carrier Instructions**

- 1. Fill the tank 1/3 to 1/2 full of clean water.
- 2. While agitating, add the required amount of ALLUVEX<sup>TM</sup>.
- 3. Continue agitation until the ALLUVEX<sup>TM</sup> is fully dissolved, at least 5 minutes. When the water temperature is 40° F or less, it is important to allow agitation and mixing to occur for the full 5 minutes to ensure the product is completely dissolved.
- 4. Once the ALLUVEX<sup>TM</sup> is fully dissolved, maintain agitation and continue filling tank with water. ALLUVEX<sup>TM</sup> should be thoroughly mixed and dissolved with clean water before adding any other material such as water conditioners or other additives.
- 5. As the tank is filling, add tank mix partners (if desired) in the proper mixing order.
- 6. Maintain agitation throughout mixing and application. If the mixture is not continuously agitated, settling could occur. If settling occurs, thoroughly re-agitate before using.
- 7. At the end of the day, or for extended periods of time between ALLUVEX<sup>TM</sup> applications, it is recommended to flush the boom hoses and lines of spray solution and recharge with clean water. This will aid in proper sprayer cleanout when concluding ALLUVEX<sup>TM</sup> applications before moving on to spray other products /crops.

8. Apply DiPont<sup>TM</sup> ALLUVEX<sup>TM</sup> spray mixture within 48 hours of mixing to avoid product degradation.

If the selected companion herbicide has a ground or surface water advisory, consider this advisory when using the companion herbicide.

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

Perform a jar test prior to tank mixing to ensure compatibility of ALLUVEX<sup>TM</sup> and other pesticides. Use a clear 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-ups, forms flakes, sludge, gel, oily film or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

#### **Ground Application**

When ALLUVEX<sup>TM</sup> is used alone, use a minimum of 15 gallons of water per acre (GPA) to ensure thorough coverage of the weeds and the best performance. When tank mixed with glyphosate, use a minimum of 5 to 10 GPA. For best performance, select nozzles and pressure that deliver MEDIUM spray droplets, as indicated, for example, by ASABE Standard S572.1. Nozzles that deliver COARSE spray droplets may be used to reduce drift, provided spray volume is increased to maintain coverage on small weeds.

For optimal product performance and minimal spray drift, adjust the spray boom to the lowest possible spray height recommended in manufacturers' specifications

#### **Aerial Application**

Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 5 GPA.

Do not apply during a temperature inversion, when winds are gusty, or when conditions favor poor coverage and/or offtarget spray movement.

#### **ROTATIONAL CROP GUIDELINES**

The following rotational intervals must be observed:

#### **UP TO 1.5 OZ/A MAXIMUM USE RATE**

Rotation Crop	Interval (months)
Corn, field	Anytime
Potatoes	1
STS Soybeans*	1
Cereals, Winter	3
Cereals, Spring	9
Corn, pop, seed or sweet	10
Flax	10
Peas	10
Sorghum	10
Snap beans, dry beans	10
Soybeans	10
Sunflower	10
Sugarbeets	18
Alfalfa	18
Canola	18
Crops Not Listed	18
* C 1C 1 TP 1 + C 1	·

<sup>\*</sup> Sulfonylurea Tolerant Soybean

#### SPRAYER PREPARATION/CLEANUP

The spray equipment must be cleaned before ALLUVEX<sup>TM</sup> is sprayed. Follow the cleanup procedures specified on the labels of the previously applied products.

It is recommended that during periods when multiple loads of ALLUVEX<sup>TM</sup> herbicide are applied, at the end of each day of spraying, the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses flushed. This will prevent the buildup of dried pesticide deposits, which can accumulate in the application equipment.

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of ALLUVEX<sup>TM</sup> as follows:

- 1. Empty the tank and drain the sump completely.
- 2. Spray the tank walls with clean water using a minimum volume of 10% of the tank volume. Circulate the water through the lines, including all by-pass lines, for at least two minutes. Flush the boom well and empty the sprayer. Completely drain the sump.
- 3. Repeat step 2.
- 4. Remove the nozzles and screens and the end caps of sprayer booms and clean separately in a bucket containing water.

The rinsate solution may be applied back to the crop(s) listed on this label. Do not exceed the maximum labeled use rate. If 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.

#### Notes:

- 1. Always start with a clean spray tank, hoses, boom and nozzles. Ensure boom sections between end nozzles and the end of the boom are clean of deposits (it is recommended to remove end caps and visually inspect). If needed, thoroughly flush rinse water through the boom sections with the end caps removed to ensure booms are clean and free of any residue or deposits.
- 2. A steam-cleaning aerial spray tank is recommended to facilitate the removal of any caked deposits.
- 3. When DuPont<sup>TM</sup> ALLUVEX<sup>TM</sup> is tank mixed with other pesticides, all cleanout procedures for each product should be examined and the most rigorous procedure should be followed.
- 4. Follow any pre-cleanout guidelines recommended on other product labels.

#### 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 drift management strategy is to apply the largest droplets which are consistent with pest control objectives. 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.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential

#### **CONTROLLING DROPLET SIZE - GROUND APPLICATION**

- Nozzle Type Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- Pressure The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- Flow Rate/Orifice Size Using the highest flow rate nozzles (largest orifice) that are consistent with pest control
  objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

#### **CONTROLLING DROPLET SIZE – AIRCRAFT**

- Nozzle Type Solid stream, or other low drift nozzles produce the coarsest droplet spectra.
- 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.
- 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**

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given

wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how they affect spray drift.

#### **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

#### SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a surface temperature inversion. Surface temperature inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface temperature 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 preventing drift and not interfering with uniform deposition of the product.

#### AIR-ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air-assisted field crop sprayers carry droplets to the target via a downward-directed airstream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application and is configured properly, and that drift is not occurring.

#### 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 ADDITIVIES**

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).

#### 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.

#### **RESISTANCE**

 $DuPont^{TM}\ ALLUVEX^{TM}, which \ contains\ the\ active\ ingredients\ rimsulfuron\ and\ thifensulfuron\ -methyl,\ is\ a\ Group\ 2$  herbicide based on the mode of action classification system of the Weed Science Society of America.

When herbicides with mode of action classifications that affect the same biological sites of action are used repeatedly over several years to control the same weed species in the same treatment area, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that area. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different biological site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that affect a different site of action. Weed escapes that are allowed to go to seed, and movement of plant material between treatment areas on equipment will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative to determine appropriate actions for treating specific resistant weed biotypes in your area.

#### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by 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.

**PESTICIDE 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 Plastic and Metal Containers (Capacity Equal to or Less Than 50 Pounds): 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 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 Plastic and Metal Containers (Capacity Greater Than 50 Pounds): 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 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.

Nonrefillable Paper or Plastic Bags, Fiber Sacks including Flexible Intermediate Bulk Containers (FIBC) or Fiber Drums With Liners: Nonrefillable container. Do not reuse or refill this container. Completely empty paper or plastic bag, fiber sack or drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer for recycling if available or dispose of empty paper or plastic bag, fiber sack or fiber drum and liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

Refillable Fiber Drums With Liners: Refillable container (fiber drum only). Refilling Fiber Drum: Refill this fiber drum with DuPont<sup>TM</sup> ALLUVEX<sup>TM</sup> containing rimsulfuron and thifensulfuron-methyl only. Do not reuse this fiber drum for any other purpose. Cleaning before refilling is the responsibility of the refiller. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Disposing of Fiber Drum and/or Liner: Do not reuse this fiber drum for any other purpose other than refilling (see preceding). Cleaning the container (liner and/or fiber drum) before final disposal is the responsibility of the person disposing of the container. Offer the liner for recycling if available or dispose of liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner. To clean the fiber drum before final disposal, completely empty the fiber drum by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer the fiber drum for recycling if available or dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

All Other Refillable Containers: Refillable container. Refilling Container: Refill this container with DuPont<sup>TM</sup> ALLUVEX<sup>TM</sup> containing rimsulfuron and thifensulfuron-methyl 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 the container, contact DuPont at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do reuse or transport container, contact DuPont 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.

Outer Foil Pouches of Water Soluble Packets (WSP): Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or, dispose of the empty outer foil pouch in the trash as long as WSP is unbroken. If the outer pouch contacts the formulated product in any way, the pouch must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer pouch as described previously.

Do not transport if this 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 DuPont at 1-800-441-3637, day or night.

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