

83529-16

4/10/2009

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Ms. Cheryl Wagner  
Agent for Sharda USA LLC  
Sharda USA LLC  
c/o Wagner Regulatory Associates, Inc.  
P.O. Box 640  
Hockessin DE 19707

APR 10 2009

RE: Notification of Alternate Brand Name: SHAFEN Herbicide  
EPA Registration Number: 83529-16  
Date of Submission: February 3, 2009

Dear Ms. Wagner:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated February 3, 2009, for the product Sharda Fomesafen 2 SL Herbicide. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the actions requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions, please call me directly at 703-305-6249 or Joyce Edwards of my staff at 703-308-5479.

Sincerely,

A handwritten signature in black ink, appearing to be "Linda Arrington".

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs

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 <p>United States <b>Environmental Protection Agency</b> Washington, DC 20460</p>		<b>Registration</b>	OPP Identifier Number
		<b>Amendment</b>	
	<input checked="" type="checkbox"/>	<b>Other</b>	

**Application for Pesticide - Section I**

1. Company/Product Number 83529-16	2. EPA Product Manager Joanne Miller	3. Proposed Classification <input checked="" type="checkbox"/> None      Restricted
4. Company/Product (Name) Sharda Fomesafen 2 SL Herbicide	PM# 23	
5. Name and Address of Applicant (Include Zip Code)  Sharda USA LLC c/o Wagner Regulatory Associates, Inc. P.O. Box 640 Hockessin, DE 19707 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(I), my product is similar or identical in composition and labeling to:  <b>NOTIFICATION</b>  APR 10 2009	

**Section - II**

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below. <b>ALTERNATE BRAND NAME</b>	<input checked="" type="checkbox"/> Other - Explain below.

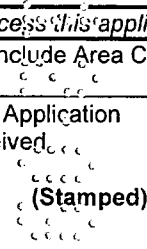

**Explanation:**

This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

**Section - III**

<b>1. Material This Product Will Be Packaged In:</b>					
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Type of Container		
			<input checked="" type="checkbox"/> Metal	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass
			<input type="checkbox"/> Paper	<input type="checkbox"/> Other (Specify) HDPE lined bags	
* Certification must be submitted		If "Yes"      No. per Unit Packaging wgt.      container	If "Yes"      No. per Package wgt      container		
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 2.5 gallons		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product			<input type="checkbox"/> Lithograph	<input type="checkbox"/> Other _____ adhesive backed label _____	
			<input checked="" type="checkbox"/> Paper glued		
			<input type="checkbox"/> Stenciled		

**Section - IV**

<b>1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)</b>		
Name CHERYL WAGNER	Title Agent for Sharda USA LLC	Telephone No. (Include Area Code) (302) 234-8551
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received 
2. Signature 	3. Title Agent for Sharda USA LLC	
4. Typed Name CHERYL WAGNER	5. Date February 3, 2009	

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Wagner Regulatory Associates, Inc.  
P.O. Box 640  
7460 Lancaster Pike, Suite 9  
Hockessin, Delaware 19707

February 3, 2009

Document Processing Desk (NOTIF)  
ATTN: Ms. Joanne Miller, PM 23  
Registration Division (7504P)  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, Virginia 22202-4501

Dear Ms. Miller,

**Re: Sharda Fomesafen 2 SL Herbicide, EPA Reg. No. 83529-16  
Notification of addition of alternate brand name**

On behalf of Sharda USA LLC, I am submitting this notification of the addition of the following alternate brand name for this registered product – SHAFEN Herbicide.

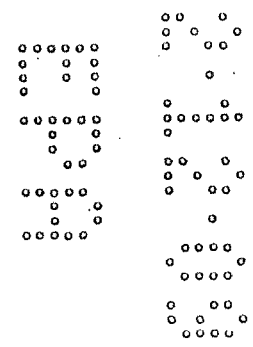
In support of this notification I have enclosed EPA form 8570-1 and 2 copies of final printed labeling with the alternate brand name.

If you have any questions concerning this submission please contact the undersigned.

Sincerely,

Cheryl Wagner  
Agent for Sharda USA LLC

enclosures



40FZ1

# SHAFEN Herbicide

For Control of Certain Weeds in Cotton, Dry Beans, Snap Beans,  
and Soybeans

**Active Ingredient:**

Sodium salt of fomesafen:

5-[2-chloro-4-(trifluoromethyl)phenoxy]-N-(methylsulfonyl)-2-nitrobenzamide .....22.8%

**Other Ingredients:** .....77.2%

**Total:** 100.0%

Equivalent to 21.7% or 2 pounds per U.S. gallon or 240 grams per liter of fomesafen active ingredient.

## 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 additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 83529-16

EPA Est. 37429-GA-1

Net Contents 2.5 gallons

### FIRST AID

<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>

### NOTE TO PHYSICIAN

Probable mucosal damage may contraindicate the use of gastric lavage.

### EMERGENCY NUMBERS

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For 24 Hour Medical Emergency Assistance (Human or Animal), Call **1-800-222-1222**. For Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call ChemTrec at **1-800-424-9300**.

### NOTIFICATION

APR 10 2009

### Manufactured for:

Sharda USA LLC  
7460 Lancaster Pike, Suite 9  
Hockessin, DE 19707

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**Precautionary Statements**

**Hazards To Humans And Domestic Animals**

**DANGER. CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE. DUE TO CORROSIVE NATURE, MAY BE HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN.** Do not get in eyes, on skin or on clothing. Avoid breathing vapors or spray mist.

**Personal Protective Equipment (PPE)**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate or viton
- Shoes plus socks
- Protective eyewear

For Aerial application, mixers and loaders handling more than 140 gallons of SHAFEN Herbicide in any single workday must wear a dust/mist filtering NIOSH-approved respirator with any N, R, P, or HE filter.

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, use detergent and hot water. Keep and wash PPE separately from other laundry.

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.

**User Safety Recommendations**

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing 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.

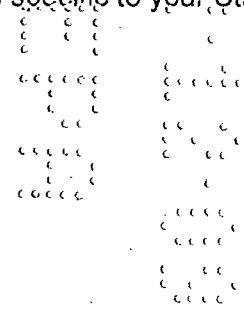
**Environmental Hazards**

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 when disposing of equipment washwaters. Do not apply when weather conditions favor drift from target area. This chemical is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

**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 you, State or Tribe, consult the agency responsible for pesticide regulation.



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**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 24 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 such as barrier laminate or viton
- Shoes plus socks
- Protective eyewear

For Aerial application, mixers and loaders handling more than 140 gallons of SHAFEN Herbicide in any single workday must wear a dust/mist filtering NIOSH-approved respirator with any N, R, P, or HE filter.

**GENERAL INFORMATION: Read all label directions before using.**

SHAFEN Herbicide is a selective herbicide which may be applied preplant surface, preemergence and/or postemergence for control or partial control of broadleaf weeds, grasses and sedges in cotton, dry beans, snap beans and soybeans.

**Preplant Surface and Preemergence Applications**

Certain germinating broadleaf weeds, grasses and sedges can be controlled or partially controlled by soil residual activity from either preplant surface or preemergence applications of SHAFEN Herbicide. Moisture is necessary to activate SHAFEN Herbicide in soil for residual weed control. Dry weather following applications of SHAFEN Herbicide may reduce effectiveness. When adequate moisture is not received after a SHAFEN Herbicide application, weed control may be improved by overhead irrigation with at least a 1/4 inch of water.

**Postemergence Applications**

SHAFEN Herbicide is generally most effective when used postemergence, working through contact action. Therefore, emerged weeds must have thorough spray coverage for effective control. Best broadspectrum postemergence control of susceptible broadleaf weeds is obtained when SHAFEN Herbicide is applied early to actively growing weeds.

This usually occurs within 14 to 28 days after planting. Refer to the weed control tables for specific recommendations on weed growth stages and rates. Some bronzing, crinkling or spotting of labeled crop leaves may occur following postemergence applications, but labeled crops soon outgrow these effects and develop normally.

**Soil Characteristics**

Application of SHAFEN Herbicide to soils with high organic matter and/or high clay content may require higher rates than soils with low organic matter and/or low clay content. Refer to the "Regional Boundaries/Definition" section of this label, weed control tables, and specific crop use sections for recommendations on use rates based on soil texture.

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**Environmental and Agronomic Conditions**

Always apply SHAFEN Herbicide under favorable environmental conditions that promote active weed growth. Avoid applying SHAFEN Herbicide to weeds or labeled crops which are under stress from drought, extreme temperatures, excessive water, low humidity, low soil fertility, mechanical or chemical injury as reduced weed control and/or increased crop injury may result.

**Rainfastness**

SHAFEN Herbicide requires a 1 hour rain-free period for best results when applied postemergence.

**Cultivation**

Cultivation prior to postemergence application is not recommended. Cultivation may put weeds under stress, reducing weed control. Timely cultivation 1-3 weeks after applying SHAFEN Herbicide may assist weed control.

**Information on Weed Resistance**

Naturally occurring biotypes of certain broadleaf species with resistance to this herbicide and related products (same mode of action) are known to exist. Selection of resistant biotypes, through repeated use of these herbicides, may result in control failures. If poor performance cannot be attributed to adverse weather conditions or improper application methods, a resistant biotype may be present. In such a case, additional treatments with this herbicide or similar mode of action products is not recommended. Consult your local company representative or agricultural advisor for assistance.

**APPLICATION DIRECTIONS**

**Drift Management:** Avoiding spray drift at the application site is the responsibility of the applicator and the grower. The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator and grower must consider the interaction of equipment and weather-related factors to ensure that the potential for drift to sensitive nontarget plants is minimal. This pesticide may only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, nontarget plants) is minimal (i.e., when the wind is blowing away from the sensitive area).

**Spray Additives:** Only spray additives cleared for use on growing crops under 40 CFR 180.1001 may be used in spray mixture.

**For Postemergence Applications Always Add One Of The Following Except in Tank Mix With Products Prohibiting Spray Additives:**

**Nonionic Surfactant (NIS)** - Use NIS containing at least 75% surface active agent at 0.25 to 0.5% v/v (1-2 qts./100 gals.) of the finished spray volume.

**Crop Oil Concentrate (COC)** - Use a nonphytotoxic COC containing 15-20% approved emulsifier, at 0.5-1% v/v (0.5-1 gal./100 gals.) of the finished spray volume. COC can improve weed control but may slightly reduce crop tolerance.

**Other Adjuvants** - Adjuvants other than COC or NIS may be used providing the product meets the following criteria:

1. Contains only EPA exempt ingredients.
2. Is nonphytotoxic to the target crop.
3. Is compatible in mixture. (May be established through a jar test.)
4. Is supported locally for use with SHAFEN Herbicide on the target crop through proven field trials and through university and extension recommendations.

**Note:** No adjuvants are needed for preplant surface or preemergence applications unless SHAFEN Herbicide is being used in a burndown on emerged weeds.

**Recommended Mixing Order:**

1. Fill the spray tank with half the required amount of water and begin agitation.\*
  2. Add dry pesticide formulations.
  3. Add SHAFEN Herbicide.
  4. Add liquid pesticide formulations.
  5. Add spray adjuvant and fertilizer (if used).
  6. Add the remaining water and maintain agitation throughout the spray operation.
- \*Compatibility agent, 1 gallon/500 gallons of water or 0.2% v/v, may be added as needed.

**GROUND APPLICATION**

**Preplant Surface and Preemergence Application:** Use a minimum of 10 gallons per acre. Nozzle selection should meet manufacturer's gallonage and pressure recommendations for preplant surface or preemergence applications.

**Postemergence Application:** Use sufficient spray volume and pressure to ensure complete coverage of the target weed. A spray volume of 10-20 gallons per acre and 30-60 psi at the nozzle tip is recommended. On large weeds and/or dense foliage, use 60 psi and a minimum of 20 gallons per acre to ensure coverage of weed foliage. The use of flat fan nozzles will result in the most effective postemergence application of SHAFEN Herbicide. Use nozzles that are set up to deliver medium quality spray (ASAE Standard S-572).

**DO NOT USE FLOOD TYPE OR OTHER SPRAY NOZZLES, WHICH DELIVER COARSE, LARGE DROPLET SPRAYS.**

**BAND APPLICATIONS**

Calculate the amount of herbicide and water volume needed for band treatment by the following formulas:

$$\frac{\text{Band width in inches}}{\text{row width in inches}} \times \frac{\text{broadcast rate}}{\text{per acre}} = \text{Band herbicide rate per acre}$$

$$\frac{\text{Band width in inches}}{\text{row width in inches}} \times \frac{\text{broadcast volume}}{\text{per acre}} = \text{Band water volume per acre}$$

**Note:** Thorough weed coverage is important for postemergence band applications. Best coverage is obtained with a minimum of two nozzles, one directed to each side of the planted row. Application with a single nozzle directed over the top of the row is not recommended for postemergence applications but is suitable for preemergence applications. Cultivation of untreated areas may be needed following band applications. When making postemergence band applications and cultivating in the same operation, position nozzles in advance of the cultivation device. This will reduce dust in the spray area. Dust can intercept spray, reducing weed coverage resulting in less than adequate weed control.

**AERIAL APPLICATION:** Use sufficient spray volume and pressure to ensure complete coverage of the target. A minimum of 5 gallons per acre of spray mixture should be applied with a maximum of 40 PSI pressure. When foliage is dense, use a minimum of 10 gallons per acre to ensure coverage of weed foliage.

**DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM.**

**GENERAL PRECAUTIONS**

- A maximum of 1.5 pts. of SHAFEN Herbicide (or a maximum of 0.375 lb. a.i./A of fomesafen from any product containing fomesafen) may be applied per acre per year in Region 1 (see "Regional Boundaries/Definition" Section of this label).
- A maximum of 1.5 pts. of SHAFEN Herbicide (or a maximum of 0.375 lb. a.i./A of fomesafen from any product containing fomesafen) may be applied per acre in ALTERNATE years in Region 2 (see "Regional Boundaries/Definition" Section of this label).



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- A maximum of 1.25 pts. of SHAFEN Herbicide (or a maximum of 0.313 lb. a.i./A of fomesafen from any product containing fomesafen) may be applied per acre in ALTERNATE years in Region 3 ("Regional Boundaries/Definition" Section of this label).
- A maximum of 1 pt. of SHAFEN Herbicide (or a maximum of 0.25 lb. a.i./A of fomesafen from any product containing fomesafen) may be applied per acre in ALTERNATE years in Region 4 ("Regional Boundaries/Definition" Section of this label).
- A maximum of 0.75 pt. of SHAFEN Herbicide (or a maximum of 0.1875 lb. a.i./A of fomesafen from any product containing fomesafen) may be applied per acre in ALTERNATE years in Region 5 ("Regional Boundaries/Definition" Section of this label).
- Thoroughly clean the spray system with water and a commercial tank cleaner before and after each use.
- Tank mixes of SHAFEN Herbicide with other pesticides, fertilizers or any other additives except as specified on this label or other approved Sharda USA LLC supplemental labels may result in tank-mix incompatibility, unsatisfactory performance or unsatisfactory crop injury.
- Avoid overlapping spray swaths, as injury may occur to rotational crops.
- To provide adequate coverage, it is recommended that ground speed not exceed 10 mph during application.
- Avoid drift to all other crops and nontarget areas. Crops other than those labeled may be severely injured by drift. Do not apply when wind velocity exceeds 15 mph.
- Do not make ground or aerial application during temperature inversions.

### Replanting

If replanting is necessary in fields previously treated with SHAFEN Herbicide, the field may be replanted to cotton, dry beans, snap beans or soybeans. During replanting, a minimum of tillage is recommended to preserve the herbicide barrier for effective weed control. Do not apply a second application of SHAFEN Herbicide or other fomesafen containing product as crop injury or illegal residues may occur in harvested crops. If tank-mix combinations were used, refer to product labels for any additional replanting instructions.

### ROTATIONAL CROP RESTRICTIONS

The following rotational crops may be planted after applying SHAFEN Herbicide at recommended rates:

Crop To Be Planted	Minimum Rotation Interval (Months After Last SHAFEN Herbicide Application)
Cotton, dry beans, snap beans, and soybeans	0
Small grains such as wheat, barley, rye	4
Corn*, peanuts, peas, rice, seed corn	10
To avoid crop injury do not plant alfalfa, sunflowers, sugar beets, sorghum** or any other crop within	18

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

\*Use a 12 month minimum rotation interval for popcorn in the states of Ohio, Kentucky, Illinois, Indiana, Iowa, and Region 4 when applied at rates of 1.0 pint per acre or more.

\*Use 18 month minimum rotation interval for sweet corn in the states of Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont and Region 5.

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

### USE RATES AND WEEDS CONTROLLED

#### Region Boundaries/Definitions

**REGION 1 (Maximum Rate 1.5 pts./A per year)** - Includes the following states or portion of states where SHAFEN Herbicide may be applied: Alabama, Arkansas, 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 1.5 pts./A, alternate years)** - Includes the following states or portion of states where SHAFEN Herbicide 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.

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**REGION 3 (Maximum Rate 1.25 pts./A, alternate years)** - Includes the following states or portion of states where SHAFEN Herbicide 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 following states: Indiana, Illinois and Ohio.

**REGION 4 (Maximum Rate 1 pint per acre, alternate years)** - Includes the following states or portion of states where SHAFEN Herbicide 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 Barron, Chippewa, Clark, Door, Dunn, Eau Claire, Kewaunee, Marathon, Menominee, Oconto, Polk, Shawano, and St. Croix counties. The following counties are excluded: Adams, Marquette, Portage, Waupaca, Waushara and Wood). 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).

**REGION 5 (Maximum Rate 0.75 pint per acre, alternate years)** - Includes the following states or portion of states where SHAFEN Herbicide may be applied: North Dakota (all areas East of U.S. Highway 281 except those areas in Region 4), South Dakota (all areas East of U.S. Highway 281 except those areas in Region 4) and Minnesota (all areas South of U.S. Highway 2 except those areas in Region 4).

**WEEDS CONTROLLED**

**Table 1. Weeds controlled or partially controlled\* by preemergence activity of Sharda Fomesafen 2 SL at 1 to 1.5 pts./A<sup>1</sup>.**

Broadleaf Weeds Controlled	Soil Texture	Organic Matter
Amaranth, Palmer	All soil types	Up to 5%
Croton, tropic <sup>2</sup>		
Eclipta		
Galinsoga spp.		
Lambsquarters, common		
Morningglory, smallflower		
Nightshade, black		
Nightshade, Eastern black		
Pigweed, redroot		
Pigweed, smooth		
Poinsettia, wild		
Purslane, common		
Ragweed, common <sup>2</sup>		
Sida, prickly <sup>2</sup>		
Starbur, bristly		
Anoda, spurred		
Cocklebur, common		
Morningglory, entireleaf		
Morningglory, ivyleaf		
Morningglory, pitted		
Morningglory, red/scarlet		
Morningglory, tall		
Nightshade, hairy		
Ragweed, giant		
Waterhemp, common		
Sedges Partially Controlled*		
Sedge, yellow nutsedge		

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\*Partial control means significant activity but not always at a level considered acceptable for commercial weed control.

<sup>1</sup>Use the higher end of the rate range when heavy weed populations are anticipated.

<sup>2</sup>Rates less than 1.5 pts./A will provide only partial control of this weed.

**Table 2. Weeds controlled or partially controlled\* by postemergence activity of SHAFEN Herbicide**

Weed	SHAFEN Herbicide Rate (pt./A)			
	Maximum Growth Stage Controlled At			
	0.75 pt./A No. of True Leaves	1 pt./A No. of True Leaves	1.25 pts./A No. of True Leaves	1.5 pts./A No. of True Leaves
Anoda, Spurred	--	--	--	2
Balloonvine	--	--	2 <sup>c</sup>	2
Carpetweed	--	6" Diameter Size	Multi-leaf 6" Diameter	Unlimited Size
Citron (Wild Watermelon)	--	2	2	4
Cocklebur, Commona,b	--	--	2	4
Copperleaf, Hophornbeam	--	2	2	4
Copperleaf, Virginia	--	2	2	4
Crotalaria, Showy	--	4	4	6
Croton, Tropic	--	2	2	4
Cucumber, Volunteer	--	4	4	6
Eclipta	--	2	2	4
Groundcherry, Cutleaf	--	4	4	6
Hempb	--	--	4	6
Horsenettleb	--	2 <sup>c</sup>	3 <sup>c</sup>	4 <sup>c</sup>
Jimsonweed	2	4	6	8
Ladysthumb	--	2	2	4
Lambsquarters, Commonc	--	2	2	2
Mexicanweed	--	2 <sup>c</sup>	2 <sup>c</sup>	2
Morningglory				
Cypressvine	--	4	4	6
Entireleaf var.	2 <sup>c</sup>	2	2	4
Ivyleaf	2 <sup>c</sup>	2	2	4
Purple Moonflower	--	2	4	4
Red (Scarlet)	--	2	2	4
Smallflower	--	2	2	4
Pitted (Smallwhite)	--	4	4	4
Tall (Common)	2 <sup>c</sup>	2	2	3
Palmleaf (Willowleaf)	--	2	2	4
Mustard, Wild	2	4	6	8
Nightshade, Black	2	4	4	4
Nutsedge, Yellow	--	--	--	Suppression Only
Pigweed, spp.				
Amaranth, Palmer	2 <sup>c</sup>	4	4	6
Amaranth, Spiny	2 <sup>c</sup>	2	2	4
Redroot	2 <sup>c</sup>	4	6	6
Smooth	2 <sup>c</sup>	4	4	6
Waterhemp, Common	2 <sup>c</sup>	2	2	4
Waterhemp, Tall	2 <sup>c</sup>	2	2	4
Poinsettia, Wild	--	--	--	3

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Weed	SHAFEN Herbicide Rate (pt./A)			
	Maximum Growth Stage Controlled At			
	0.75 pt./A No. of True Leaves	1 pt./A No. of True Leaves	1.25 pts./A No. of True Leaves	1.25 pts./A No. of True Leaves
Purslane, Common	--	Multi-Leaf 6" Diameter	Multi-Leaf 6" Diameter	Multi-Leaf 8" Diameter
Pusley, Florida	--	--	--	2
Ragweed, Common	2	4	4	6
Ragweed, Giant <sup>b</sup>	--	--	4	4
Redweed	--	--	--	3 <sup>c</sup>
Sesbania, Hemp	--	6	6	12
Sicklepod	--	--	--	Cotyledon <sup>c</sup>
Sida, Prickly	--	--	--	Cotyledon <sup>c</sup>
Smartweed, Pennsylvania	2 <sup>c</sup>	4	4	6
Smellmelon	--	--	--	2
Spurge, Prostrate	--	--	--	1" Diameter <sup>c</sup>
Spurge, Spotted	--	--	--	2 <sup>c</sup>
Starbur, Bristly	--	2	2	4
Sunflower, Common	--	--	--	2
Velvetleaf <sup>b</sup>	--	--	2	4
Venice Mallow	2	4	4	6
Witchweed	--	Multi-Leaf Up to 7"	Multi-Leaf Up to 7"	Multi-Leaf Up to 10"
Yellow Rocket	2	4	6	6

\*Partial control means significant activity but not always at a level considered acceptable for commercial weed control.

<sup>a</sup>Do not apply in cotyledon stage.

<sup>b</sup>For effective control of this weed it is necessary to use 1% MSO and 2.5% UAN v/v as an adjuvant in Regions 2 and 3 (soybeans only).

<sup>c</sup>Partial control.

### SPECIAL USE DIRECTIONS FOR ADDITIONAL WEED PROBLEMS

#### Partial Control\* of Annual Grasses (Crabgrass, Goosegrass, Texas Panicum, Broadleaf Signalgrass)

The grasses listed above may be partially controlled by preemergence applications of SHAFEN Herbicide at 1-1.5 pts./A.

The grasses listed below may be partially controlled by postemergence applications of SHAFEN Herbicide at 1-1.5 pts./A.

Barnyardgrass	Signalgrass, broadleaf	Crabgrass	Foxtail (Giant, Green, Yellow)
Goosegrass	Johnsongrass, Seedling	Panicum, Fall	Panicum, Texas

#### Partial Control\* of Perennial Weeds

Use of SHAFEN Herbicide postemergence at rates of 1-1.5 pts./A will aid in suppressing the above-ground portions of the weeds listed below until crop canopy can assist in suppression. Perennial weeds continue to regrow from underground rootstocks even if aboveground foliage is temporarily controlled or retarded. Even though SHAFEN Herbicide and crop competition can suppress perennial weeds for a growing season, the rootstocks will continue to live and reestablishment will occur in subsequent years.

Milkweed, (Climbing & Honeyvine)	Bindweed (Field & Hedge)	Trumpetcreeper
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\*Partial control means significant activity but not always at a level considered acceptable for commercial weed control.

## CROP USE DIRECTIONS

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### COTTON

**Preemergence Application:** Apply SHAFEN Herbicide preemergence at 1-1.5 pts./A in cotton in Region 1 for control or partial control of the weeds listed in Table 1. Apply as a preemergence treatment only to coarse textured soils (sandy loam, loamy sand, sandy clay loam). **Do not** apply as a preemergence treatment to medium or fine-textured soils as crop injury will likely occur.

To broaden the weed control spectrum, SHAFEN Herbicide may be tank mixed with other preemergence herbicides such as Caparol®, Cotoran®, Direx®, Karmex®, Solicam®, or Staple®. For control of emerged weeds, SHAFEN Herbicide may be tank mixed with a burndown herbicide such as Gramoxone Inteon™ or glyphosate brands (such as Touchdown®, Roundup®) labeled in cotton. In reduced tillage plantings, SHAFEN Herbicide can be applied up to 14 days prior to planting or at planting with a burndown herbicide. Refer to the tank-mix partner label for use directions, restrictions and limitations. The most restrictive product labeling applies. Cotton plants are tolerant to preemergence applications of SHAFEN Herbicide when applied at recommended rates and to coarse textured soil types. Some crinkling or spotting of cotton foliage or stunting may occur, especially if heavy rainfall occurs during or soon after cotton emergence, but cotton plants normally outgrow these effects and develop normally.

Cotton foliage is not tolerant to SHAFEN Herbicide. Do not apply SHAFEN Herbicide over the top of emerged cotton as unacceptable cotton injury will occur.

**Post-Directed Application:** Apply SHAFEN Herbicide 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 SHAFEN Herbicide at 1-1.5 pints per acre in a minimum of 10 gallons spray solution per acre. Applications may be made broadcast or banded. Postdirected applications of SHAFEN Herbicide will provide contact control of labeled emerged weeds and residual preemergence control of labeled weeds (once activated by rainfall or irrigation). See previous label sections for a list of weeds controlled, recommended application rates, weed growth stages, and application directions.

SHAFEN Herbicide 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. Do not add liquid nitrogen (28% or similar) to SHAFEN Herbicide, or SHAFEN Herbicide tank mixes in cotton. To broaden the weed control spectrum, post-directed applications of SHAFEN Herbicide may be tank mixed with other labeled post-directed herbicides such as Caparol, DSMA, Direx, Dual MAGNUM®, Envoke®, Karmex, Layby™ Pro, MSMA, Sequence®, or Suprend®. When applied with hooded or shielded sprayers, SHAFEN Herbicide and SHAFEN Herbicide tank mixes may be applied with burndown products such as Gramoxone Inteon, Sequence or glyphosate brands (such as Touchdown, Roundup) labeled for in crop application in cotton. Refer to the tank-mix partner label for use directions, restrictions and limitations. The most restrictive product labeling applies.

Cotton foliage is not tolerant to SHAFEN Herbicide applications. Avoid contact to cotton foliage 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:** SHAFEN Herbicide 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 recommendations below for post-directed applications in cotton.

**Shield and Hooded Applications:** Make a precision post-directed SHAFEN Herbicide application 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 SHAFEN Herbicide in cotton that is 6 inches to 12 inches in height. Adjust nozzles to provide full coverage of emerged target weeds.

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**Layby Applications:** Make a post-directed SHAFEN Herbicide application 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 layby. Application equipment should be configured to provide full coverage of emerged target weeds.

### **General Restrictions - Cotton**

Do not apply SHAFEN Herbicide later than 70 days before harvest.

Do not apply more than 1.5 pints per acre of SHAFEN Herbicide in any year.

### **Special Use Directions for the Suppression of Woollyleaf Bursage (Lakeweed), *Ambrosia grayi*, in Texas**

Apply SHAFEN Herbicide to cultivated areas of cropland in the fall or spring as a spot treatment at a rate of 1.5 pints per acre and incorporate to a depth of 2-3 inches for suppression of woollyleaf bursage.

Applications should be made with ground equipment.

The use of adjuvants, as specified under the Spray Additives section, will significantly improve the initial burndown of any emerged woollyleaf bursage, but this effect is only temporary. Therefore, an adjuvant may be used if desired, but is not necessary.

Significant suppression may not be seen until 6-8 months after application, but should then continue for at least 2 years after application. Cotton or soybeans may be planted in treated areas. Under certain conditions, significant damage may occur to cotton planted within 18 months of application. A 3-year interval from last application to planting is required for all other crops.

Do not make more than one application of SHAFEN Herbicide per year.

Do not apply more than 1.5 pints per acre of SHAFEN Herbicide in any year.

If two consecutive year applications are made, allow a 2 year interval before another application.

### **DRY BEANS AND SNAP BEANS**

**Preplant Surface and Preemergence Application:** Apply SHAFEN Herbicide as a preplant surface or preemergence application in Regions 1, 2, 3, and 4 only for control or partial control of the weeds listed in Table 1. SHAFEN Herbicide can be applied alone, or tank mixed or followed sequentially with other labeled dry bean or snap bean herbicides to broaden the weed control spectrum or control newly emerged weeds. Refer to the **Tank Mix and Sequential Application** section for additional information.

**NOTE:** Treated soil that is splashed onto newly emerged seedlings may result in temporary crop injury but plants normally outgrow these effects and develop normally.

**Postemergence Application:** Apply as a postemergent broadcast application in Regions 1, 2, 3, 4 and 5 for control or partial control of the weeds listed in Table 2 and in the **Special Use Directions For Additional Weed Problems** section. Application rate depends on weed species and growth stage. Two applications may be made if necessary but not to exceed the maximum rate specified per geographic region. (Refer to "Regional Boundaries/Definition" Section of this label for Definition of Specified Geographic Regions). Refer to the Spray Additive section for recommended spray additives. Use of crop oil concentrate can improve weed control but may slightly reduce crop tolerance. Do not use UAN (28% or similar) or ammonium sulfate on dry beans or snap beans as severe crop injury may occur. Apply when dry beans or snap beans have at least one fully expanded trifoliolate leaf. SHAFEN Herbicide can be applied alone or in tank mix with other labeled dry bean or snap bean postemergence herbicides to broaden the weed control spectrum. Refer to the **Tank Mix and Sequential Application** section. Some bronzing, crinkling or spotting of dry bean or snap bean leaves may occur following postemergent applications, but dry beans and snap beans soon outgrow these effects and develop normally.

### **Tank Mix and Sequential Applications for Dry Beans and Snap Beans**

SHAFEN Herbicide can be used sequentially or in tank mix with the following products: Assure II®, Basagran®, Dual MAGNUM, Eptam®, Poast®, Prowl®, Pursuit®, Raptor®, or Treflan®. Under certain conditions, the mixture of SHAFEN Herbicide with one or more of the above mentioned broadleaf herbicides may cause a reduction in activity of any postemergence grass herbicide in the mixture.

For sequential applications allow 2-3 days after the application of the postemergence grass herbicide before applying or SHAFEN Herbicide mixtures. Where SHAFEN Herbicide or the SHAFEN Herbicide mixture is applied first, apply the grass herbicide when the grass weeds begin to develop new leaves (generally around 7 days).

**NOTE:** Tank-mix applications can result in increased crop injury as compared to either product used alone. Always read and follow the recommendations, restrictions and limitations for all products whether used alone, sequentially or in a tank mix. The most restrictive labeling of any product used applies.

**General Restrictions – Dry Beans and Snap Beans**

- Refer to “Regional Boundaries/Definition” Section of this label for the maximum rate of SHAFEN Herbicide (or other fomesafen containing products) that may be applied in each geographic region.
- Do not apply to any field in Regions 2, 3, 4 or 5 more than once every two years.
- **For snap beans:** Do not exceed 1.5 pints of SHAFEN Herbicide per acre in any one year and also adhere to the maximum rate that may be applied in each geographic region (refer to the “Regional Boundaries/Definition” Section of this label). Do not graze treated areas or harvest for forage or hay. Do not utilize hay or straw for animal feed or bedding. Do not apply within 30 days of harvest.
- **For dry beans:** Do not exceed 1.5 pints of SHAFEN Herbicide per acre in any one year and also adhere to the maximum rate that may be applied in each geographic region (See “Regional Boundaries/Definition” Section of this label). Do not graze animals on green forage or stubble. Do not utilize hay or straw for animal feed or bedding. Do not apply within 45 days of harvest.

**SOYBEANS**

**Preplant Surface and Preemergence Application:** Apply SHAFEN Herbicide as a preplant surface or preemergence application in Regions 1, 2, 3, and 4 only for control or partial control of the weeds listed in Table 1. SHAFEN Herbicide can be applied alone or tank mixed or followed sequentially with other labeled soybean herbicides to broaden the weed control spectrum or control newly emerged weeds. Refer to the **Tank Mix and Sequential Application** section for additional information.

For control of emerged weeds, SHAFEN Herbicide may be tank mixed with a burndown herbicide such as Gramoxone Inteon or glyphosate brands (such as Touchdown or Roundup) labeled in soybeans. In reduced tillage plantings, SHAFEN Herbicide can be applied up to 14 days prior to planting or at planting with a burndown herbicide.

**Postemergence Application:** Apply SHAFEN Herbicide as a postemergence broadcast application in Regions 1, 2, 3, 4 and 5 for control or partial control of weeds listed in Table 2 and in the **Special Use Directions For Additional Weed Problems** section. Application rate depends on weed species and growth stage. Refer to the Spray Additive section for recommended spray additives. To enhance postemergence control of susceptible broadleaf weeds (**soybeans only**) in Regions 2, 3, 4 and 5 (see “Regional Boundaries/Definition” Section of this label). SHAFEN Herbicide can be used with a minimum of 2.5% liquid nitrogen (28% or similar) or a minimum of 10 pounds ammonium sulfate per 100 gallons of spray volume. SHAFEN Herbicide can be applied alone or in combination with other labeled soybean postemergence herbicides to broaden the weed control spectrum. Refer to the **Tank Mix and Sequential Application** section. Some bronzing, crinkling or spotting of soybean leaves may occur following postemergent applications, but soybeans soon outgrow these effects and develop normally.

**Tank Mix and Sequential Applications For Soybeans**

SHAFEN Herbicide can be used sequentially or in tank mix with one or more of the following products: Assure II, Basagran, Boundary®, Butyrac®, Classic®, Dual MAGNUM, Dual II MAGNUM®, FirstRate®, Fusilade® DX, Fusion®, Glyphosate (such as Touchdown, Roundup or Glyphomax™), Gramoxone Inteon, Harmony® GT XP, Pursuit, Poast, Poast Plus®, Prowl, Raptor, Resource®, Select®, Sequence, Scepter®, and Synchrony® STS®.

Under certain conditions, the mixture of SHAFEN Herbicide with one or more of the above mentioned broadleaf herbicides may cause a reduction in activity of any postemergence grass herbicide in the mixture.

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For sequential applications allow 2-3 days after the application of the postemergence grass herbicide before applying SHAFEN Herbicide or SHAFEN Herbicide mixtures. Where SHAFEN Herbicide or the SHAFEN Herbicide mixture is applied first, apply the postemergence grass herbicide when the grass weeds begin to develop new leaves (generally around 7 days).

**NOTE:**

- Tank-mix applications can result in increased crop injury as compared to either product used alone.
- Do not exceed 1 fl. oz. of Butyrac per acre in mixture with SHAFEN Herbicide.
- Do not exceed 0.25 oz./A of Synchrony STS herbicide in the tank with labeled rates of SHAFEN Herbicide on non-STs varieties. This tank mix can be applied postemergence to any soybean variety for additional broadleaf weed control. Refer to the Synchrony STS label for more information and crop rotation restrictions.
- Always read and follow the recommendations, restrictions and limitations for all products whether used alone, sequentially or in a tank mix. The most restrictive labeling of any product used applies.

**Roundup Ready® (Glyphosate Tolerant) Soybean Tank Mixes**

SHAFEN Herbicide at 6-12 oz./A, can be tank mixed with glyphosate products (such as Touchdown or Roundup) that are labeled for Roundup Ready (glyphosate tolerant) soybeans for improved postemergence control of many weeds such as morningglory spp., hemp sesbania, waterhemp, and black nightshade which are known to have tolerance to glyphosate, but are susceptible to SHAFEN Herbicide.

**FOLLOW THE RECOMMENDATIONS ON THE GLYPHOSATE PRODUCT LABEL FOR THE USE OF SPRAY ADDITIVES IN THIS TANK MIX.**

Do not allow this tank mix to move off target as contact by even minute quantities can cause severe damage or death to any nontarget vegetation.

**NOTE:** Postemergence application of this tank mix on soybean varieties which do not contain the Roundup Ready gene will result in severe crop injury or death of the soybean crop. Always read and follow the recommendations, restrictions and limitations for all products used. The most restrictive labeling of any product applies.

**General Restrictions – Soybeans**

- Refer to "Regional Boundaries/Definition" Section of this label for the maximum rate of SHAFEN Herbicide (or other fomesafen containing products) that may be applied in each geographic region. Do not apply to any field in Regions 2, 3, 4 or 5 more than once every two years.
- Do not exceed 1.5 pints of SHAFEN Herbicide per acre in any one year and also adhere to the maximum rate that may be applied in each geographic region (refer to the "Regional Boundaries/Definition" Section of this label). Do not graze treated areas or harvest for forage or hay. Do not apply within 45 days of harvest.

**AERIAL SPRAY DRIFT MANAGEMENT ADVISORY  
SPRAY 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. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.
3. Where states have more stringent regulations, they should be observed.
4. The applicator should be familiar with and take into account the information covered in the **Aerial Drift Reduction Advisory Information**.



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## Aerial Drift Reduction Advisory Information

### IMPORTANCE OF 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 Inversion** sections of this label).

### 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** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. 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 backwards, parallel to the airstream will produce larger droplets than other orientations. 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 larger droplets than other nozzle types.

### BOOM LENGTH

For some use patterns, reducing the effective boom length to less than 3/4 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 downwind. 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 2-10 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.

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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

The pesticide 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, nontarget crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

**Table 3. Scientific Names of Weeds in the SHAFEN Herbicide label**

COMMON NAME	SCIENTIFIC NAME
Amaranth, Palmer	<i>Amaranthus palmeri</i>
Amaranth, Spiny	<i>Amaranthus spinosus</i>
Anoda, Spurred	<i>Anoda cristata</i>
Balloonvine	<i>Cardiospermum halicacabum</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Bindweed, Field	<i>Convolvulus arvensis</i>
Bindweed, Hedge	<i>Calystegia sepium</i>
Broadleaf Signalgrass	<i>Brachiaria platyphylla</i>
Carpetweed	<i>Mollugo verticillata</i>
Citron (Wild Watermelon)	<i>Citrullus vulgaris</i>
Cocklebur, Common	<i>Xanthium strumarium</i>
Copperleaf, Hophornbeam	<i>Acalypha ostryifolia</i>
Copperleaf, Virginia	<i>Acalypha virginica</i>
Crabgrass	<i>Digitaria</i> spp.
Crotalaria, Showy	<i>Crotalaria spectabilis</i>
Croton, Tropic	<i>Croton glandulosus</i>
Cucumber, Volunteer	<i>Cucumis sativas</i>
Eclipta	<i>Eclipta prostrata</i>
Foxtail, Giant	<i>Setaria faberi</i>
Foxtail, Green	<i>Setaria viridis</i>
Foxtail, Yellow	<i>Setaria glauca</i>
Goosegrass	<i>Eleusine indica</i>
Groundcherry, Cutleaf	<i>Physalis angulata</i>
Hemp	<i>Cannabis sativa</i>
Horsenettle	<i>Solanum carolinense</i>
Jimsonweed	<i>Datura stramonium</i>
Johnsongrass, Seedling	<i>Sorghum halepense</i>
Ladysthumb	<i>Polygonum persicaria</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Mexicanweed	<i>Caperonia castaniifolia</i>
Milkweed, Climbing	<i>Sarcostemma cyanchoides</i>
Milkweed, Honeyvine	<i>Ampelamus albidus</i>
Morningglory,	<i>Ipomoea quamoclit</i>

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Table 3. Scientific Names of Weeds in the SHAFEN Herbicide label (Cont'd.)

Entireleaf	<i>Ipomoea hederacea</i> var. <i>integriscula</i>
Ivyleaf	<i>Ipomoea hederacea</i> var. <i>hederacea</i>
Purple Moonflower	<i>Ipomoea turbinata</i>
Red (Scarlet)	<i>Ipomoea coccinea</i>
Smallflower	<i>Jacquemontia tamnifolia</i>
Pitted (Smallwhite)	<i>Ipomoea lacunosa</i>
Tall (Common)	<i>Ipomoea purpurea</i>
Palmleaf (Willowleaf)	<i>Ipomoea wrightii</i>
Mustard, Wild	<i>Brassica kaber</i>
Nightshade, Black	<i>Solanum nigrum</i>
Nightshade Eastern Black ,	<i>Solanum ptychanthum</i>
Nightshade, Hairy	<i>Solanum physalifolium</i>
Nutsedge, Yellow	<i>Cyperus esculentus</i>
Panicum, Fall	<i>Panicum dichotomiflorum</i>
Panicum, Texas	<i>Panicum texanum</i>
Pigweed, Amaranth	<i>Amaranthus palmeri</i>
Pigweed, Redroot	<i>Amaranthus retroflexus</i>
Pigweed, Smooth	<i>Amaranthus hybridus</i>
Poinsettia, Wild	<i>Euphorbia heterophylla</i>
Purslane, Common	<i>Portulaca oleracea</i>
Pusley, Florida	<i>Richardia scabra</i>
Ragweed, Common	<i>Ambrosia artemisiifolia</i>
Ragweed, Giant	<i>Ambrosia trifida</i>
Redweed	<i>Melochia corchorifolia</i>
Sesbania, Hemp	<i>Sesbania exaltata</i>
Sicklepod	<i>Cassia obtusifolia</i>
Sida, Prickly	<i>Sida spinosa</i>
Signalgrass, Broadleaf	<i>Brachiaria platyphylla</i>
Smartweed Pennsylvania,	<i>Polygonum pennsylvanicum</i>
Smellmelon	<i>Cucumis melo</i>
Spurge, Prostrate	<i>Euphorbia humistrata</i>
Spurge, Spotted	<i>Euphorbia maculata</i>
Starbur, Bristly	<i>Acanthospermum hispidum</i>
Sunflower, Common	<i>Helianthus annuus</i>
Trumpet creeper	<i>Campsis radicans</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Venice Mallow	<i>Hibiscus trionum</i>
Waterhemp, Common	<i>Amaranthus rudis</i>
Waterhemp, Tall	<i>Amaranthus tuberculatos</i>
Witchweed	<i>Striga asiatica</i>
Yellow Rocket	<i>Barbarea vulgaris</i>

**STORAGE AND DISPOSAL**

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

**Prohibitions:** Open dumping is prohibited. Do not reuse empty container.

**Pesticide Storage:** Store above 32°F in original containers only. If product freezes, return to room temperature and agitate to reconstitute. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

**STORAGE AND DISPOSAL (Cont'd.)**

**Pesticide Disposal:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL**

**Metal Containers:** Triple rinse (or equivalent); then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

**Plastic Containers:** Triple rinse (or equivalent); then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Bulk and Mini-Bulk Containers**

**Container Disposal:** When the container is empty, replace the cap and seal all openings that have been opened during use; and return the container to the point of purchase, or to a designated location named at the time of purchase of the product. This container must only be refilled with this pesticide product. **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.**

Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

**Container Precautions:** Before refilling, inspect thoroughly for damage, such as cracks, punctures, bulges, dents, abrasions and damaged or worn threads on closure devices. **REFILL ONLY WITH SHAFEN HERBICIDE.** The contents of this container cannot be completely removed by cleaning. Refilling with materials other than SHAFEN Herbicide will result in contamination and may weaken container.

After filling and before transporting, check for leaks. Do not refill or transport damaged or leaking container.

**CONTAINER IS NOT SAFE FOR FOOD, FEED OR DRINKING WATER**

**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY****LIMITATION OF WARRANTY AND LIABILITY**

**NOTICE:** Read This Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at Once, Unopened, and the Purchase Price Will Be Refunded.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Sharda USA LLC. These risks can cause: ineffectiveness of the product; crop injury, or; injury to non-target crops or plants. Sharda USA LLC does not agree to be an insurer of these risks. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.** Sharda USA LLC warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

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