

83529-25

10/15/2010

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U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Registration Division (7505P)
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

EPA Reg. Number:

83529-25

Date of Issuance:

OCT 15 2010

NOTICE OF PESTICIDE:

X Registration

\_\_\_ Reregistration

(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

Shafen Star

Name and Address of Registrant (include ZIP Code):

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

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

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

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

- 1) Submit and/or cite all data required for registration/reregistration review of your product when the Agency requires all registrants of similar products to submit data. If required, failure to submit acceptable data to fulfill these requirements may result in registration cancellation in accordance with FIFRA section 6(e).
2) Add the phrase "EPA Reg. No. 83529-25" to the labeling and assure that the EPA Establishment Number and Net Contents are also on the label.
3) Generate one-year storage stability (830.6317) and corrosion characteristics (830.6320) data on the product. The observations should be made at 0, 3, 6, 9, and 12 month intervals. The results must be submitted to the Agency in electronic and hard copy format within 15 months of the date on this notice.
4) Per the Label Review Manual, change the phrase "To the extent permitted by applicable law" (also expressed in upper case letters as "TO THE EXTENT PERMITTED BY APPLICABLE LAW") to "TO THE EXTENT CONSISTENT WITH APPLICABLE LAW" throughout the CONDITIONS OF SALE AND LIMITATIONS OF WARRANTY AND LIABILITY section of the label.
5) Change the "INFORMATION" header on page 5 to "PRODUCT INFORMATION".

SEE NEXT PAGE FOR ADDITIONAL COMMENTS

Signature of Approving Official:

Kathryn V. Montague
Product Manager 23
Herbicide Branch
Registration Division (7505P)

[Handwritten signature of Kathryn V. Montague]

Date:

OCT 15 2010

6) The statement in the Hazards to Humans and Domestic Animals section which reads "CAUSES EYE AND SKIN IRRITATION. HARMFUL IF SWALLOWED....." must be changed to read "Causes skin irritation. Harmful if absorbed through skin. Harmful if swallowed. Causes moderate eye irritation. Do not get on skin or on clothing. Avoid contact with eyes. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals."

7) The Personal Protective Equipment (PPE) section must read as follows:

Personal Protective Equipment (PPE)

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

Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber, or Viton
- Chemical-resistant footwear plus socks
- Chemical-resistant apron when mixing, loading, or cleaning equipment
- Chemical-resistant headgear for overhead exposure

8) Per the Label Review Manual, the following statement must be added under the Personal Protective Equipment section of the label:

"Follow the 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."

9) The statements in the First Aid box should be reordered to read:

- "If on skin.....
- If swallowed.....
- If in eyes.....
- If inhaled....."

Note: The "If Inhaled" statement is not required, and is considered optional. This text may remain on the label as additional safety language or it may be removed from the label.

10) The first bullet in the User Safety Recommendations box should be changed from "Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet." to "Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse."

11) NOTE: While no additional data is being requested at this time, marketing claims made on the pesticide label must be substantiated by data maintained in your files. If data supporting marketing claims made on the product label is not available then those claims must be removed.

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EPA Registration #: 83529-25  
Product: Shafen Star  
Sharda USA, LLC

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

13) Submit one (1) copy of the revised final printed label before the product is released for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

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# SHAFEN STAR

For Control of Weeds in Soybeans

**Active Ingredient:**

Sodium salt of Fomesafen 5-[2-chloro-4-(trifluoromethyl)phenoxy]-N-(methylsulfonyl)-2-nitrobenzamide ..... 22.1%\*

**Other Ingredients:** ..... 77.9%

**Total:** ..... 100.0%

\*Equivalent to 21.0% fomesafen or 1.88 lbs. fomesafen active ingredient per gal.

**KEEP OUT OF REACH OF CHILDREN.**

## WARNING/AVISO

*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 in the attached booklet.*

EPA Reg. No. 83529- 25

EPA Est No. \_\_\_\_\_

**Net Contents**

- 2.5 gallons
- \_\_\_\_\_ gallons (bulk)

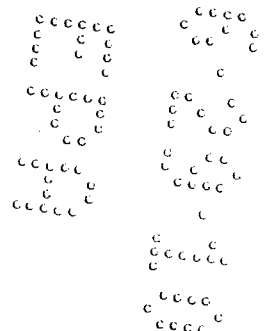
Manufactured for:  
Sharda USA, LLC  
7460 Lancaster Pike, Suite 9  
Hockessin, DE 19707

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated:**

**OCT 15 2010**

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No.

83529-25



<b>FIRST AID</b>	
If in eyes	<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>
If swallowed	<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>
If on skin or clothing	<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>
If inhaled	<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>
<p><b>NOTE TO PHYSICIAN</b>            Probable mucosal damage may contraindicate the use of gastric lavage.</p>	
<p>Have the product container or label with you when calling a Poison Control Center or doctor or going for treatment.</p>	
<p><b>HOT LINE NUMBER</b> For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call 1-800-888-8372</p>	

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**WARNING/AVISO**

This product contains fomesafen which has been determined to cause tumors in laboratory animals (mice). Risks can be reduced by closely following use directions and precautions and by wearing the protective clothing specified elsewhere on this label.

**CAUSES EYE AND SKIN IRRITATION. HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.** Do not get on skin or on clothing. Avoid breathing vapor or spray mist. Avoid contact with eyes. Prolonged or repeated skin contact may cause allergic reactions in some individuals. **WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING.**



**Personal Protective Equipment (PPE)**

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

Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants.
- Chemical-resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber, or Viton®.
- Chemical-resistant footwear plus socks.
- Chemical-resistant apron when cleaning equipment, mixing or loading.

In addition for aerial applications mixers and loaders handling more than 150 gallons of Shafen Star in any single work day must wear:

- Dust/mist filtering NIOSH-approved respirator with any N, R, P, or HE filter.

**User Safety Recommendations**

**Users should:**

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

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove 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 wash waters. 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.

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

NOTICE: Read the entire Directions for Use and Conditions of Sale and 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.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials

or other influencing factors in the use of the product, which are beyond the control of Sharda USA, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SHARDA and Seller harmless for any claims relating to such factors.

SHARDA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SHARDA, and (2) Buyer and User assume the risk of any such use. TO THE EXTENT PERMITTED BY APPLICABLE LAW, SHARDA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL. To the extent permitted by applicable law, in no event shall SHARDA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SHARDA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SHARDA OR SELLER, THE REPLACEMENT OF THE PRODUCT.

SHARDA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SHARDA.

**DIRECTIONS FOR USE**

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

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

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 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 over short-sleeved shirt and short pants.
- Chemical-resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber, or Viton.
- Chemical-resistant footwear plus socks.

**INFORMATION**

Read all label directions before using.

Shafen Star is a selective herbicide which may be applied preplant, preemergence or postemergence for control or suppression of broadleaf weeds, grasses and sedges in soybeans.

Shafen Star is generally most effective and consistent when used postemergence, working through contact action. Therefore, emerged weeds must have thorough spray coverage for effective control. Some bronzing, crinkling or spotting of soybean leaves may occur following a postemergent application, but soybeans soon outgrow these effects and develop normally.

Optimum weed control is achieved by postemergent applications of Shafen Star to young actively growing broadleaf weeds that are not under stress from moisture, temperature, low soil fertility, mechanical or chemical injury.

Certain germinating broadleaf weeds, grasses and sedges may be controlled or suppressed by soil residual activity from either preplant, preemergent or postemergent applications if rainfall occurs shortly after application. The extent and consistency of soil activity is dependent upon soil characteristics, ground cover, amount of rainfall following application and the rate of Shafen Star used.



### 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 are not recommended. Consult your local company representative or agricultural advisor for assistance.

## APPLICATION DIRECTIONS

### Application Timing

Best broad spectrum postemergence control of susceptible broadleaf weeds is obtained when Shafen Star is applied early to actively growing weeds. This usually occurs 14 to 28 days after planting. Refer to the weed control tables for specific recommendations on weed growth stages and rates.

### Spray Additives

Only spray additives cleared for use on growing crops under 40 CFR 180.1001 may be used in the spray mixture. For best broad spectrum postemergence control of susceptible broadleaf weeds in Regions 2,3,4 and 5 (see Regional Use Maps), Shafen Star should be used with 1.0-2.5% v/v liquid nitrogen (28% or similar) or a minimum of 8.5 lbs. ammonium sulfate per 100 gals, of spray volume.

**For Postemergence Applications Always Add One of the Following: except in tank mix with products prohibiting spray additives - (See Tank Mix Directions for Use).**

**Crop Oil Concentrate (COC) or Methylated Seed Oil (MSO):** Use a nonphytotoxic COC or MOS containing 15-20% approved emulsifier at 0.5-1% v/v (2-4 qts/100 gals.) of finished spray volume. COC or MSO can improve weed control but may slightly reduce crop tolerance.

**Nonionic Surfactant (NIS):** Use NIS containing at least 80% active ingredient at 0.25-0.5% v/v (2-4 qts/100 gals.) of finished spray volume (Region 1 and East of Interstates 79 and 77 for Regions 2 and 3).

**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 Star on the target crop through proven field trials and through university and extension recommendations.

**Note:** no adjuvants are needed for preplant or preemergence applications unless Shafen Star is being used in a burndown.

**Recommended Mixing Order:**

1. Fill spray tank with half the required amount of water and begin agitation.\*
2. Add fertilizer (UAN, AMS).
3. Add dry pesticide formulations.
4. Add Shafen Star.
5. Add liquid pesticide formulation.
6. Add adjuvant (MSO, COC or NIS).
7. Add remainder of water and then maintain constant agitation.

\*Compatibility agent, 1 gal/500 gals, of water or 0.2% v/v, may be added as needed.

**Ground Application**

Use sufficient spray volume and pressure to ensure complete coverage of the target. A minimum spray volume of 15 gals/A 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 gals./A to ensure coverage of weed foliage.

The use of flat fan nozzles will result in the most effective postemergence application of Shafen Star. The sprayer must be calibrated to provide the proper volume and rate per acre. In addition, the boom and nozzle height must be adjusted to provide complete coverage of target weeds.

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

**Band Applications**

Thorough weed coverage is important for postemergent control. 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.

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

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

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast volume per acre} = \text{Band herbicide rate per acre}$$

**Aerial Application**

Use sufficient spray volume and pressure to ensure complete coverage of the target. A minimum of 5 gals/A of spray mixture should be applied with a maximum of 40 PSI pressure. When broadleaf weed foliage is dense, use a minimum of 10 gals/A to ensure coverage of weed foliage.

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

**Cultivation**

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

**Rainfastness**

Shafen Star requires a 1 hour rain-free period for best results when applied postemergence.

**PRECAUTIONS**

- A maximum of 1.6 pts. of Shafen Star (or a maximum of 0.375 lbs. a.i./A of fomesafen from any product containing fomesafen) may be applied per acre per year in Region 1 (see Regional Use Map).
- A maximum of 1.6 pts. of Shafen Star (or a maximum of 0.375 lbs. a.i./A of fomesafen from any product containing fomesafen) may be applied per acre in alternate years in Region 2 (see Regional Use Map).
- A maximum of 1.3 pts. of Shafen Star (or a maximum of 0.313 lbs. a.i./A of fomesafen from any product containing fomesafen) may be applied per acre in alternate years in Region 3 (see Regional Use Map).
- A maximum of 1 pt. of Shafen Star (or a maximum of 0.25 lbs. a.i./A of fomesafen from any product containing fomesafen) may be applied per acre in alternate years in Region 4 (see Regional Use Map).
- A maximum of 0.75 pt. of Shafen Star (or a maximum of 0.1875 lbs. a.i./A of fomesafen from any product containing fomesafen) may be applied per acre in

alternate years in Region 5 (see Regional Use Map).

- Thoroughly clean the spray system with water and a commercial tank cleaner before and after each use.
- Tank mixes of Shafen Star with other pesticides, fertilizers or any other additives except as specified on this label or other approved Sharda supplemental labels may result in tank mix incompatibility, unsatisfactory performance and/or unsatisfactory crop injury.
- Apply postemergence to actively growing weeds. Avoid applying Shafen Star to weeds or soybeans which are under stress from moisture, temperature, low soil fertility, mechanical or chemical injury, as reduced weed control and/ or increased crop injury may result.
- 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.
- Do not graze treated areas or harvest for forage or hay.
- Do not apply within 45 days of soybean harvest.

**ROTATIONAL CROP RESTRICTIONS**

The following rotational crops may be planted after applying Shafen Star at recommended rates in soybeans:

Crop To Be Planted	Minimum Rotation Interval (Months After Last Shafen Star Application)
Dry beans, snap beans, soybeans and cotton	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

\* Use 12 month minimum rotation interval for popcorn in the states of Ohio, Kentucky, Illinois, Indiana, Iowa and Region 4 when applied at a rate of 1.0 pt/A 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.

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

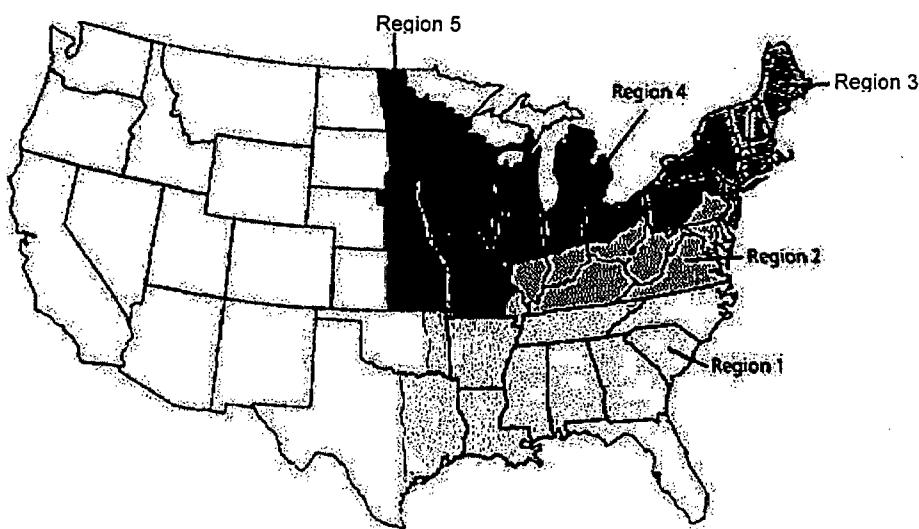
**Replanting**

If replanting is necessary in fields previously treated with Shafen Star, the field may be replanted to cotton, dry beans, snap beans or soybeans. Do not apply a second application of Shafen Star 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.

**SHAFEN STAR - USE RATES AND WEEDS CONTROLLED**

REFER TO MAP FOR DEFINITION OF SPECIFIED GEOGRAPHIC REGIONS

SHAFEN STAR REGIONAL USE MAP



**REGION 1**

**(Maximum Rate 1.6 pts./A per year)**

**REGION 1:** Includes the following states or portion of states where Shafen Star 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 (all areas East of U.S. Highway 77 to State Road 239, including all of Calhoun County):



**REGION 2**

**(Maximum Rate 1.6 pts./A, alternate years)**

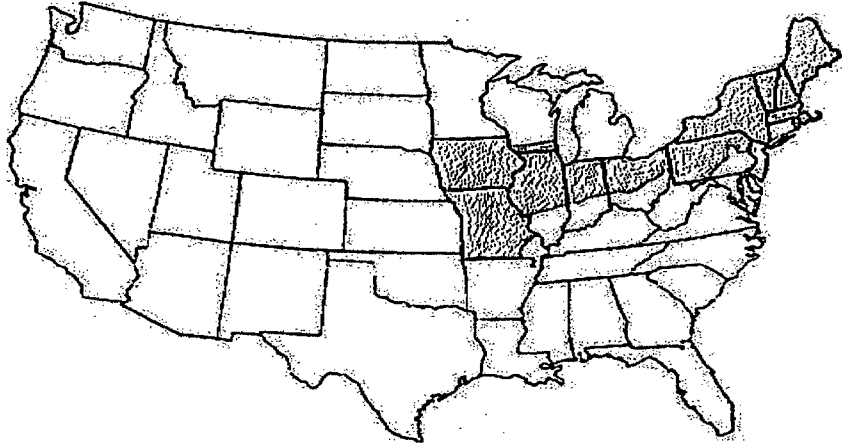
**REGION 2:** Includes the following states or portion of states where Shafen Star may be applied: Delaware, Kentucky, Maryland, Virginia and West Virginia. South of Interstate 70 in the following states: Illinois, Indiana and Ohio and in Pennsylvania (all areas South of Interstate 80 to the intersection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



### REGION 3

(Maximum Rate 1.3 pts./A, alternate years)

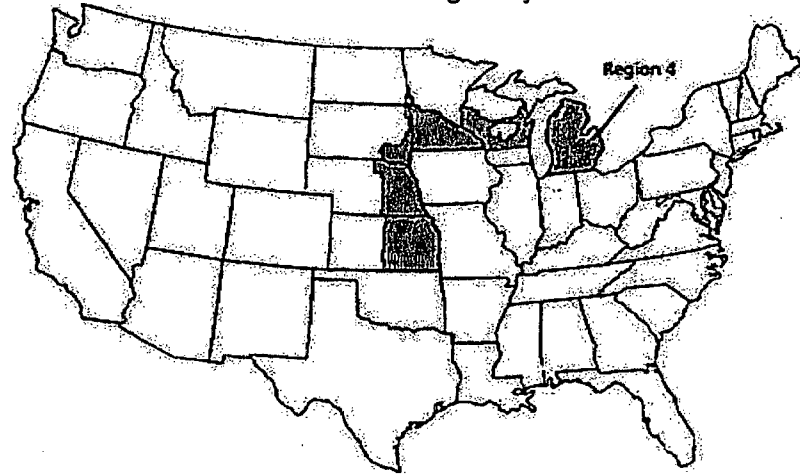
**REGION 3:** Includes the following states or portion of states where Shafen Star may be applied: Connecticut, Iowa, Maine, Massachusetts, Missouri (all counties except for those listed in Region 1), New Hampshire, New Jersey, New York, Pennsylvania (all areas except those listed in Region 2), Rhode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



**REGION 4**

**(Maximum Rate 1 pt/A, alternate years)**

**REGION 4:** Includes the following states or portion of states where Shafen Star 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 pts./A, alternate years)**

**REGION 5:** Includes the following states or portion of states where Shafen Star 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).



**APPLICATION RATES FOR WEED GROWTH STAGES**

Weed	Shafen Star Rate (pts./A)			
	Maximum Growth Stage Controlled At			
	3/4 pts./A # of True Leaves	1 pt/A # of True Leaves	1.25 pts./A # of True Leaves	1.5 pts./A # of True Leaves
Anoda, Spurred	—	2*	2	4
Balloonvine	—	—	2	4
Carpetweed	—	8" Diameter Size	Unlimited Size	Unlimited Size
Citron (Wild Watermelon)	—	2	4	4
Cocklebur, Common	2	4	6	8
Copperleaf, Hophornbeam	—	4	4	6
Copperleaf, Virginia	—	4	4	6
Crotalaria, Showy	—	6	6	8
Croton, Tropic	—	4	4	6
Cucumber, Volunteer	—	4	6	8
Eclipta	—	2	4	4
Groundcherry, Cutleaf	—	4	6	8
Hemp	—	4	6	6
Horsenettle	—	2*	4*	4*
Jimsonweed	4	6	8	8
Ladysthumb	2*	2	4	6
Lambsquarters, Common	2*	2*	2*	2*
Mexicanweed	—	2*	2	4
Morningglory				
Cypressvine	2	4	6	6
Entireleaf var.	3*	3	4	5
Ivyleaf	3*	3	4	5
Purple Moonflower	3*	3	5	6
Red (Scarlet)	3*	3	6	6
Smallflower	3*	3	4	6
Pitted (Smallwhite)	4*	4	6	6
Tall (Common)	2*	2	3	5
Palmleaf (Willowleaf)	3*	3	6	6
Mustard, Wild	4	6	8	8
Nightshade, Black	2	4	6	6
Nutsedge, Yellow	—	—	*	*

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Weed	Shafen Star Rate (pts./A) Maximum Growth Stage Controlled At			
	3/4 pts./A # of True Leaves	1 pt/A # of True Leaves	1.25 pts./A # of True Leaves	1.5 pts./A # of True Leaves
Pigweed, spp.				
Amaranth, Palmer	2	4	6	6
Amaranth, Spiny	2	2	4	6
Redroot	2	4	6	8
Smooth	2	4	6	6
Waterhemp, Common	2*	2	4	6
Waterhemp, Tall	2*	2	4	6
Poinsettia, Wild	-	2	4	6
Purslane, Common	-	Multi-Leaf 6" Diameter	Multi-Leaf 8" Diameter	Multi-Leaf 8" Diameter
Pusley, Florida	-	2	2	4
Ragweed, Common	4*	4	6	8
Ragweed, Giant	4*	4	6	8
Redweed	-	-	2*	3*
Sesbania, Hemp		8	12	12
Sicklepod		-	Cotyledon*	Cotyledon*
Sida, Prickly	-	2*	2	4
Smartweed, Pennsylvania	4*	4	6	6
Smellmelon	-	2	2	4
Spurge, Prostrate	-	-	1" Diameter*	2" Diameter*
Spurge, Spotted	-	-	2*	2*
Starbur, Bristly	-	4	4	6
Sunflower, Common	-	-	2	4
Velvetleaf	-	2	4	4
Venice Mallow	4	6	6	8
Witchweed	-	Multi-leaf Up to 7"	Multi-leaf Up to 10"	Multi-leaf Up to 10"
Yellow Rocket	4	4	6	8

\*Suppression Only

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**SPECIAL USE DIRECTIONS FOR ADDITIONAL WEED PROBLEMS**

**Suppression of Annual Grasses:**

The grasses listed below may be suppressed by postemergence applications and controlled or suppressed by preemergence applications of Shafen Star at 1-1.5 pts/A. Consult Use Rate Table for maximum rate in each region. For full-season broad-spectrum annual grass control, Fusilade® DX or Fusion® herbicide should be used alone or in tank mix with Shafen Star. Consult tank mix section.

- Barnyardgrass
- Broadleaf Signalgrass
- Crabgrass
  - Foxtail
  - Giant
  - Green
  - Yellow
- Goosegrass
- Johnsongrass, Seedling
- Panicum, Fall
- Panicum, Texas

**Suppression of Perennial Weeds:**

Use of Shafen Star at postemergence 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 above-ground foliage is temporarily controlled or retarded. Even though Shafen Star 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
- Milkweed, Honeyvine
- Bindweed, Field
- Bindweed, Hedge
- Trumpet creeper

**TANK MIX AND SEQUENTIAL APPLICATIONS FOR SOYBEANS**

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

Under certain conditions, the mixture of Shafen Star 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 grass herbicide before applying Shafen Star or Shafen Star mixtures. Where Shafen Star or the Shafen Star mixture is applied first, apply the grass herbicide when grass weeds begin to develop new leaves (generally around 7 days).

- 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 Star.
- Do not exceed 0.25 oz./A of Synchrony STS herbicide in the tank with labeled rates of Shafen Star 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.

**GLYPHOSATE TOLERANT SOYBEAN TANK MIXES**

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

**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 non-target vegetation.

Note: Postemergence application of this tank mix on soybean varieties which do not contain the glyphosate tolerant 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.

**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 is responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target 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.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the AERIAL DRIFT REDUCTION ADVISORY.

**AERIAL DRIFT REDUCTION ADVISORY**

[This section is advisory in nature and does not supersede the mandatory label requirements.]

**INFORMATION ON DROPLET SIZE**

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (See Wind, Temperature and Humidity, and Temperature Inversions).

**CONTROLLING DROPLET SIZE**

- Volume: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure: Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of Nozzles: Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation: Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet

size and increase drift potential.

- **Nozzle Type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lower drift.

**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 ft. above the top of the target 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 should 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 winds 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. 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).



## APPENDIX

Scientific names are listed for those weeds referred to in the Shafen Star 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>
Cqeklebur, Common	<i>Xanthium strumarium</i>
Copperleaf, Hophornbeam	<i>Acalypha qstryifolia</i>
Copperleaf, Virginia	<i>Acalypha virginica</i>
Crabgrass	<i>Digitaria spp.</i>
Crotalaria, Showy	<i>Crotalaria spectabilis</i>
Croton, Tropic	<i>Croton glandulosus</i>
Cucumber, Volunteer	<i>Cucumissativas</i>
Eclipta	<i>Eclipta prostrata</i>
Foxtail, Giant	<i>Setaria faberi</i>
Foxtail, Green	<i>Setaria viridis</i>
Foxtail, Yellow	<i>Setaria pumila</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>Caperonla castaniifolia</i>
Milkweed, Climbing	<i>Sarcostemma cyanchoides</i>
Milkweed, Honeyvine	<i>Ampelamus albidus</i>

COMMON NAME	SCIENTIFIC NAME
Morningglory, Cypressvine	<i>Ipomoea quamodit</i>
Entireleaf	<i>Ipomoea hederacea</i> var. <i>integriuscula</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 (Small White)	<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>
Nutsedge, Yellow	<i>Cyperus esculentus</i>
Panicum, Fall	<i>Panicum dichotomiflorum</i>
Panicum, Texas	<i>Panicum texanum</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>Mchardia 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>
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>
Trumpetcreeper	<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 asatica</i>
Yellow Rocket	<i>Barbarea vulgaris</i>

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## 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 solidifies, 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.

### **Pesticide Disposal**

Pesticide wastes are toxic. 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 Handling [Less Than 5 Gallons]**

Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### **Container Handling [For Bulk and Mini-Bulk Containers]**

Refillable container. Refill this container with pesticide only. Do not use this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.  
**CONTAINER IS NOT SAFE FOR FOOD, FEED OR DRINKING WATER.**

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