

241-372

11/17/2008

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

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Mr. Jeffrey H. Birk, Ph.D.  
BASF Corporation  
Agricultural Products  
26 Davis Drive  
Research Triangle Park, NC 27709

NOV 17 2008

Subject: Label Notification(s) for Pesticide Registration Notice 2007-4

Dear Dr Birk:

The Agency is in receipt of your Application(s) for Pesticide Notification under Pesticide Registration Notice (PRN) 2007-4 dated October 13, 2008 for:

**EPA Registration 241-372 Sahara DG Herbicide**

The Registration Division (RD) has conducted a review of this request for applicability under PRN 2007-4 and finds that the label change(s) requested falls within the scope of PRN-2007-4. The label has been date-stamped "Notification" and will be placed in our records.

Please be reminded that 40 CFR Part 156.140(a)(4) requires that a batch code, lot number, or other code identifying the batch of the pesticide distributed and sold be placed on nonrefillable containers. The code may appear either on the label (and can be added by non-notification/PR Notice 98-10) or durably marked on the container itself.

If you have any questions, please contact me directly at 703-305-6249 or Banza Djapao of my staff at 703-305-7269.

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



United States  
**Environmental Protection Agency**  
 Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

**Application for Pesticide - Section I**

1. Company/Product Number 241-372	2. EPA Product Manager James Tompkins	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Sahara DG herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) BASF 26 Davis Drive Research Triangle Park, NC 27709 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

**NOTIFICATION**  
 NOV 17 2007

**Section - II**

<input type="checkbox"/> Amendment - Explain below.	<input checked="" 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.	<input type="checkbox"/> Other - Explain below.

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)

Notification- final print label and updated container disposal statements as per PRN 2007-04 for Sahara DG herbicide (241-372). This notification is consistent with the guidance in PR Notice 2007-4 and the requirements of EPA's regulations at 40 CFR 156.10, 156.140, 156.144, 156.146, and 156.156. 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 the amended label is not consistent with the requirements of 40 CFR 156.10, 156.140, 156.144, 156.146, and 156.156, 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. This notification is not subject to a fee under PRIA. Contact Jeff Birk at 919-547-2622 (phone), 919-547-2850 (fax) or by Email at birki@basf.com

**Section - III**

1. Material This Product Will Be Packaged In:				2. Type of Container	
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		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	<input checked="" type="checkbox"/> Paper	<input type="checkbox"/> Other (Specify) _____
		If "Yes" Package wgt	No. per container		
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 10 and 40 pounds		5. Location of Label Directions <input checked="" type="checkbox"/> on label accompanying product	
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Jeffrey H. Birk	Title Regulatory Manager	Telephone No. (Include Area Code) 919-547-2622
Certification 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  (Stamped)
2. Signature 	3. Title Regulatory Manager	
4. Typed Name Jeffrey H. Birk	5. Date October 13, 2008	



The Chemical Company

October 13, 2008 ✓

U.S. Environmental Protection Agency  
Office of Pesticide Programs (7505P)  
Document Processing Desk 7504P (NOTIF)  
Room S-4900  
One Potomac Yard  
2777 S. Crystal Drive  
Arlington, VA 22202  
Attention: Mr. James Tompkins, (PM 25)

**RE: Notification:  
Container Disposal Statement as per PR Notice 2007-04  
Sahara® DG herbicide; EPA Reg. No. 241-372**

Dear Mr. Tompkins:

BASF is hereby submitting a notification for Sahara DG herbicide (EPA Reg. No. 241-372) in compliance with revisions to the container disposal statements as per PR Notice 2007-04.

Enclosed please find:

- Application form 8570-1
- CD containing electronic copy of the label
- Certification with Respect to Label Integrity
- Sahara DG herbicide label.
- Current Sahara DG herbicide label

No PRIA fee is required for this notification.

Thank you for your assistance with this matter. If you should have any questions, please feel free to call me at (919) 547-2622.

Regards,

Jeffrey H. Birk, Ph.D.  
Regulatory Manager  
Phone 919-547-2622  
Fax: 919-547-2850  
Email: [jeffrey.birk@basf.com](mailto:jeffrey.birk@basf.com)

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# Sahara®

DG herbicide

## Bareground vegetation control in specified noncropland areas

**Active Ingredients:**

Imazapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid)	7.78%
Diuron (3-[3,4-dichlorophenyl]-1,1-dimethylurea)	62.22%

<b>Other Ingredients:</b>	<u>30.00%</u>
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<b>Total:</b>	100.00%
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EPA Reg. No. 241-372  
U.S. Patent No. 4,798,619

EPA Est. No.

### KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCIÓN

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

See inside for complete **First Aid, Precautionary Statements, Directions For Use,**  
and **Conditions of Sale and Warranty.**

**In case of an emergency endangering life or property involving this product,**  
**call day or night, 1-800-832-HELP (4357).**

**Net Contents:**

BASF Corporation  
26 Davis Drive  
Research Triangle Park, NC 27709

### NOTIFICATION

NOV 17 2007



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 to 20 minutes.</li> <li>• Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 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>
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).	

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION**

**Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.**

**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 A** on an EPA chemical-resistance category selection chart.

All pilots, flaggers, and groundboom applicators must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

All mixers, loaders, other applicators, and other handlers must wear:

- Long-sleeved shirt, long pants
- Shoes plus socks
- Chemical-resistant gloves, such as barrier laminate, butyl rubber or polyethylene.
- A NIOSH-approved dust/mist filtering respirator with any N, R, P or HE filter or a NIOSH-approved dust/mist filtering respirator with approval number prefix TC-21C.
- Chemical-resistant apron when mixing, loading or cleaning equipment or spills.

See **Engineering Controls** for additional requirements.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**User Safety Recommendations**

**Users should:**

- Wash hands thoroughly with soap and water after handling and 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.

**Engineering Controls**

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.240(d)(5)].

Flaggers supporting aerial applications must use an enclosed cab that meets the definition in the Worker Protection Standard for Agricultural Pesticides [40CFR 170.240(d)(5)] for dermal protection. In addition, flaggers must wear long-sleeved shirts, long pants, shoes, and socks.

**General Precautions and Restrictions**

**DO NOT** enter or allow others to enter treated area until sprays have dried.

**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.

**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. Apply this product only as specified on this label.

**Physical and Chemical Hazards**

Spray solutions of **Sahara® DG herbicide** should be mixed, stored and applied only in stainless steel, fiberglass, plastic and plastic-lined steel containers.

**DO NOT** mix, store or apply **Sahara® DG herbicide** or spray solutions of **Sahara** in unlined steel (except stainless steel) containers or spray tanks.

**IMPORTANT**

**DO NOT** use on food or feed crops. **DO NOT** treat irrigation ditches, or water used for crop irrigation or for domestic purposes. Keep from contact with fertilizers, insecticides, fungicides and seeds. **DO NOT** drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. **DO NOT** use on lawns, walks, driveways, tennis courts, or similar areas. **DO NOT** side trim desirable vegetation with this product. Prevent drift of spray to desirable plants. **DO NOT USE in California.** Clean application equipment after using this product by thoroughly flushing with water.

**I. GENERAL INFORMATION**

**Sahara** is a dispersible granule to be mixed with water and a spray adjuvant and applied as a spray solution to railroads, utility, pipeline and highway rights-of-way, fence rows, farmyards and around farm buildings, non-irrigation ditch banks, and industrial noncropland areas such as utility plant sites, petroleum tank farms, pumping installations and storage areas, where bareground is desired. **Sahara** may also be used for weed control under paved surfaces.

**Sahara** will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species and **Sahara** will provide residual control of weeds which germinate in the treated areas. **For annual weed control Sahara may be applied either preemergence or postemergence to the weeds; however, a late pre-emergence to early postemergence application is the method of choice in most situations. For perennial weed control Sahara is only effective when applied postemergence and will not control perennial weeds that are not emerged at the time of application.** For maximum activity, weeds should be growing vigorously at the time of postemergence application and the spray solution should include a spray adjuvant (for specific recommendations see **ADJUVANTS** section of this label).

The length of residual weed control achieved with **Sahara** is dependent upon the weed spectrum present, the rate applied, and weather conditions. Longer residual control can be achieved in areas with sensitive weed species, higher **Sahara** use rates, lower precipitation and cooler soil temperatures. Extremes in weather conditions, such as higher than average rainfall, can significantly affect the residual control of **Sahara** and shorten the overall length of control.

**PRECAUTIONS FOR AVOIDING INJURY TO NONTARGET PLANTS**

Untreated trees can occasionally be affected by root uptake of **Sahara** through movement into the topsoil. Injury or loss of desirable trees or other plants may result if **Sahara** is applied on or near desirable trees or other

plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots.

Treatment of powder dry soil or light sandy soil when there is little likelihood of rainfall soon after treatment may result in off target movement and possible damage to desirable plants when soil particles are moved by water and/or wind. Injury to crops may result if treated soil is washed, blown, or moved onto land used to produce crops. Exposure to **Sahara** may injure or kill most crops.

**DIRECTIONS FOR USE**

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

**Sahara** should be used only in accordance with recommendations on the leaflet label attached to the container. Keep containers closed to avoid spills and contamination.

**Storage and Disposal**

**DO NOT** contaminate water, food or feed by storage or disposal of this product.

**Pesticide Disposal.** Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

**CONTAINER DISPOSAL (for paper or plastic bags)**

**Nonrefillable Container. DO NOT reuse or refill this container.** After completely emptying container into application equipment, dispose of empty bag in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

**In Case of Spill**

In case of large-scale spillage regarding this product, call:  
CHEMTREC 1-800-424-9300  
BASF Corporation 1-800-832-HELP (4357)

**SPRAY DRIFT**

**DO NOT** apply this product in a way that will contact workers or other persons either directly or through drift.

**Requirements for reducing spray drift for ground and aerial applications:** Use best practices to avoid drift to crops and non-target areas. **DO NOT** apply when conditions favor drift from target areas. The interaction of many equipment- and weather-related factors determine the potential for spray drift. Avoiding spray drift at the application site is the responsibility of the applicator. The applicator must follow the most restrictive precautions to avoid drift, including those found in this labeling as well as applicable state and local regulations and ordinances. A drift control agent may reduce drift, however, it may also decrease weed control.

Make aerial and ground applications only when the wind speed is less than or equal to 10 miles per hour.

**DO NOT** make aerial or ground applications into temperature inversions.

Apply with medium or coarser spray (according to ASAE standard 572) for standard nozzles.

For ground applications, use lowest nozzle height consistent with safety and efficacy. Direct spray into target vegetation.

For aerial applications the spray boom should be mounted on the aircraft so as to minimize drift caused by wing tip vortices. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter. Use upwind swath displacement. Apply at a minimum safe altitude above the area being treated. **DO NOT** apply by air if sensitive non-target crops are within 100 feet of the application site.

## II. Application Instructions

### Application Restrictions

- A maximum of 19 pounds of **Sahara**® DG herbicide (12 pounds of diuron) per acre may be applied in areas of high rainfall or dense vegetation.
- A maximum of 12.85 pounds of **Sahara** per acre (8 pounds of diuron) may be applied in all other areas.
- A maximum of two (2) applications may be made per year.
- The minimum retreatment interval is 90 days.

When using **Sahara** in combination with other diuron-containing products a total of no more than 12 pounds of diuron may be applied per application in high rainfall or dense vegetation areas and a total of 8 pounds of diuron per application in all other areas. No more than two applications of diuron-containing products may be made per year with a minimum of 90 days between treatments.

**Sahara** controls many annual weeds when applied either preemergence or postemergence and many perennial weeds when applied postemergence (See the **Weeds Controlled** section for a list of susceptible weeds).

**Sahara** should be mixed in water and applied with properly calibrated equipment to deliver the desired gallons per acre of spray volume in a uniformly distributed spray pattern across the treated area. **Sahara** should be applied at a minimum of 7 pounds of product per acre. Rates as low as 5 pounds of **Sahara** per acre may be used, but must be tank mixed with another herbicide (see **TANK MIXES** section below). For retreatment purposes within the same growing season, **Sahara** rates less than 7 pounds per acre may be used. **DO NOT** apply more than a total of 19 pounds per acre in a 12 month period in areas with high rainfall or dense vegetation. A maximum of 12.85 pounds of **Sahara** per acre may be applied in all other areas.

The length of residual weed control achieved with **Sahara** may be significantly affected by rainfall amounts. To achieve the desired residual control with increasing rainfall amounts, higher rates of **Sahara** should be applied. As a general guideline the **Sahara** rates listed below are recommended for different annual rainfall amounts. Actual use rates will vary depending upon the length of residual control desired, weed pressure and environmental conditions.

Average Annual Rainfall in Inches	Pounds of Sahara
Less than 15 inches	*7-10 pounds of product
Between 15 and 35 inches	8-13 pounds of product
Greater than 35 inches	13-19 pounds of product

\* For initial applications **Sahara** may be used at rates as low as 5 to 6 pounds per acre, but must be tank mixed with another herbicide (see **TANK MIXES** section below).

Ensure that spray equipment maintains adequate agitation to keep **Sahara** suspended in spray mixture.

**Postemergence Applications:** Always use a spray adjuvant (see **ADJUVANTS** section of this label) when making a postemergence application. For optimum performance on tough to control perennial weeds, applications should be made at a total volume of 100 gallons per acre or less in combination with 1 quart per acre of a methylated seed oil. For quicker burndown or brown-out of target weeds, **Sahara** may be tank mixed with products such as **Roundup**® or **Finale**® herbicides (see **TANK MIXES** section of this label for other products and specific recommendations).

### Spot Treatments and "Crack and Crevice" Treatments:

**Sahara** may be used as an initial or follow-up treatment to control escapes or weed encroachment in a bareground situation including cracks and crevices in paved surfaces such as roadways, runways and parking areas. To prepare the spray solution, thoroughly mix in each gallon of water at least 0.5 to 1 pound of **Sahara** plus an adjuvant. **DO NOT** exceed the maximum use rate per acre for the area being treated. For increased burndown, include **Roundup**, **Finale**, or similar products (see **TANK MIXES** section of this label for other products and specific recommendations).

### TANK MIXES

**Sahara** may be tank mixed with **Roundup**, **Karmex**® (Diuron), **Oust**®, **Garlon**®, **Finale**, **MSMA**, **Banvel**®, **Vanquish**®, **Pendulum**®, **Plateau**® or **Arsenal** herbicides. Tank mixes with 2,4-D or products which contain 2,4-D, have resulted in reduced performance of perennial weed control.

Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank mixes.

### FOR CONTROL OF UNDESIRABLE WEEDS UNDER PAVED SURFACES

**Sahara** can be used under asphalt, pond liners and other paved areas, **ONLY** in industrial sites or where the pavement has a suitable barrier along the perimeter that prevents encroachment of roots of desirable plants.

**Sahara** should be used only where the area to be treated has been prepared according to good construction practices. If rhizomes, stolons, tubers or other vegetative plant parts are present in the site, they should be removed by



scalping with a grader blade to a depth sufficient to ensure their complete removal.

**IMPORTANT:** Paving should follow **Sahara® DG herbicide** applications as soon as possible. **DO NOT** apply where the chemical may contact the roots of desirable trees or other plants.

This product is not recommended for use under pavement on residential properties, such as driveways or parking lots, nor is it recommended for use in recreational areas, such as under bike or jogging paths, golf cart paths, or tennis courts, or where landscape plantings could be anticipated.

Injury or death of desirable plants may result if this product is applied where roots are present or where they may extend into the treated area. Roots of trees and shrubs may extend a considerable distance beyond the branch extremities or the so-called drip line.

### APPLICATION DIRECTIONS FOR USE UNDER PAVED SURFACES

Applications should be made to the soil surface only when final grade is established. **DO NOT** move soil following **Sahara** application.

Apply **Sahara** in sufficient water (at least 100 gal/acre) to ensure thorough and uniform wetting of the soil surface, including the shoulder areas. Add **Sahara** at a rate of 19 pounds of product per acre to clean water in the spray tank during the filling operation. Agitate before spraying.

If the soil is not moist prior to treatment, incorporation of **Sahara** is needed for herbicide activation. **Sahara** can be incorporated into the soil to a depth of 4 to 6 inches using a rototiller or disc. Rainfall or irrigation of 1 inch will also provide uniform incorporation. **DO NOT** allow treated soil to wash or move into untreated areas.

### ADJUVANTS

**Postemergence applications of Sahara require a spray adjuvant.**

**Nonionic Surfactants:** Use a nonionic surfactant at the rate 0.25% v/v or higher (see manufacturer's label) of the spray solution (0.25% v/v is equivalent to 1 quart in 100 gallons). For best results, select a nonionic surfactant with a HLB (hydrophilic to lipophilic balance) ratio between 12 and 17 and having at least 70% surfactant in the formulated product (alcohols, fatty acids, oils, ethylene glycol or diethylene glycol should not be considered as surfactants to meet the above requirements).

**Methylated Seed Oils or Vegetable Oil Concentrates:** Instead of a surfactant, a methylated seed oil or vegetable-based seed oil concentrate may be used at the rate of 1.5 to 2 pints per acre. When using spray volumes greater than 30 gallons per acre, methylated seed oil or vegetable-based seed oil concentrates should be mixed at a rate of 1% of the total spray volume or, alternatively, use a nonionic surfactant, as described above. Research indicates that these oils may aid in **Sahara** deposition and uptake by plants under moisture or temperature stress. Methylated

seed oils are the adjuvant of choice and will increase control of perennial weeds.

**Silicone-Based Surfactants:** See manufacturer's label for specific rate recommendations. Silicone-based surfactants may reduce the surface tension of the spray droplets allowing greater spreading on the leaf surface as compared to conventional nonionic surfactants. However, some silicone-based surfactants may dry too quickly, limiting herbicide uptake.

**Fertilizer/Surfactant Blends:** Nitrogen-based liquid fertilizers, such as 28%N, 32%N, 10-34-0, or ammonium sulfate, may be added at the rate of 2 to 3 pints per acre in combination with the recommended rate of nonionic surfactant, methylated seed oil or vegetable/seed oil concentrate. The use of fertilizers in a tank mix without a nonionic surfactant, methylated seed oil or vegetable/seed oil concentrate is not recommended.

### WEEDS CONTROLLED BY SAHARA

**Sahara** will provide preemergence or postemergence control with residual control of the following target vegetation species at the rates listed. Residual control refers to control of newly germinating seedlings. In general, annual weeds may be controlled by preemergence or postemergence applications of **Sahara**. **For established biennials and perennials, postemergence applications of Sahara are recommended.** Refer to the **APPLICATION INSTRUCTIONS** section for use rate recommendations. **Sahara** should be used only in accordance with the recommendations on this label.

**Resistant Biotypes:** Naturally occurring biotypes (a plant within a given species that has a slightly different but distinct genetic makeup from other plants of the same species) of some weeds listed on this label (pigweed, kochia and Russian thistle) may not be effectively controlled by this and/or other herbicides (**Oust®**) with the ALS/AHAS enzyme inhibiting mode of action. If naturally occurring ALS/AHAS resistant biotypes are present in an area, **Sahara** should be tank mixed or applied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

### WEEDS CONTROLLED<sup>1</sup>

#### GRASSES

COMMON NAME	SPECIES	GROWTH HABIT <sup>2</sup>
Annual bluegrass	( <i>Poa annua</i> )	A
Annual ryegrass	( <i>Lolium multiflorum</i> )	A
Annual sweet vernalgrass	( <i>Anthoxanthum odoratum</i> )	A
Bahiagrass <sup>7</sup>	( <i>Paspalum notatum</i> )	P
Barnyardgrass	( <i>Echinochloa crusgalli</i> )	A
Beardgrass	( <i>Andropogon</i> spp.)	P
Bermudagrass <sup>7, 8, 9</sup>	( <i>Cynodon dactylon</i> )	P
Big bluestem <sup>7</sup>	( <i>Andropogon gerardii</i> )	P
Broadleaf signalgrass	( <i>Brachiaria platyphylla</i> )	A
Canada bluegrass	( <i>Poa compressa</i> )	P
Cattail	( <i>Typha</i> spp.)	P

**GRASSES** (continued)

COMMON NAME	SPECIES	GROWTH HABIT <sup>2</sup>
Cheat	( <i>Bromus secalinus</i> )	A
Cogongrass	( <i>Imperata cylindrica</i> )	P
Crabgrass	( <i>Digitaria</i> spp.)	A
Dallisgrass <sup>7</sup>	( <i>Paspalum dilatatum</i> )	P
Downy brome	( <i>Bromus tectorum</i> )	A
Fall panicum	( <i>Panicum dichotomiflorum</i> )	A
Feathertop	( <i>Pennisetum villosum</i> )	P
Fescue	( <i>Festuca</i> spp.)	A/P
Foxtail	( <i>Setaria</i> spp.)	A
Goosegrass	( <i>Eleusine indica</i> )	A
Guineagrass	( <i>Panicum maximum</i> )	P
Italian ryegrass	( <i>Lolium multiflorum</i> )	A
Johnsongrass	( <i>Sorghum halepense</i> )	P
Kentucky bluegrass	( <i>Poa pratensis</i> )	P
Kyllinga	( <i>Cyperus brevifolius</i> )	A
Lovegrass	( <i>Eragrostis</i> spp.)	A/P
Maidencane	( <i>Arundinaria amabilis</i> )	P
Orchardgrass	( <i>Dactylis glomerata</i> )	P
Paragrass	( <i>Brachiaria mutica</i> )	P
Peppergrass	( <i>Lepidium virginicum</i> )	A
Phragmites	( <i>Phragmites australis</i> )	P
Prairie cordgrass	( <i>Spartina pectinata</i> )	P
Prairie threeawn	( <i>Aristida oligantha</i> )	P
Quackgrass	( <i>Agropyron repens</i> )	P
Rattail fescue	( <i>Vulpia myuros</i> )	A
Reed canarygrass	( <i>Phalaris arundinacea</i> )	P
Ricegrass	( <i>Oryzopsis hymenoides</i> )	A
Saltgrass <sup>7, 8, 9</sup>	( <i>Distichlis stricta</i> )	P
Sand dropseed <sup>7</sup>	( <i>Sporobolus cryptandrus</i> )	P
Sandbur	( <i>Cenchrus</i> spp.)	A
Smooth brome	( <i>Bromus inermis</i> )	P
Sprangletop <sup>6, 7</sup>	( <i>Leptochloa</i> spp.)	A
Timothy	( <i>Phleum pratense</i> )	P
Torpedograss	( <i>Panicum repens</i> )	P
Vaseygrass	( <i>Paspalum urvillei</i> )	P
Velvetgrass	( <i>Holcus lanatus</i> )	A
Wild barley	( <i>Hordeum</i> spp.)	A
Wild oats	( <i>Avena fatua</i> )	A
Wirestem muhly	( <i>Muhlenbergia frondosa</i> )	P
Witchgrass	( <i>Panicum capillare</i> )	A

**BROADLEAF WEEDS**

COMMON NAME	SPECIES	GROWTH HABIT <sup>2</sup>
Arrowwood	( <i>Pluchea sericea</i> )	A
Ageratum	( <i>Asteraceae houstonianum</i> )	P
Broom snakeweed <sup>3</sup>	( <i>Gutierrezia sarothrae</i> )	P
Bull thistle	( <i>Cirsium vulgare</i> )	B
Burdock	( <i>Arctium</i> spp.)	B
Canada thistle <sup>7</sup>	( <i>Cirsium arvense</i> )	P
Carolina geranium	( <i>Geranium carolinianum</i> )	A
Carpetweed	( <i>Mollugo verticillata</i> )	A
Clover	( <i>Trifolium</i> spp.)	A/P
Cocklebur	( <i>Xanthium strumarium</i> )	A

**BROADLEAF WEEDS** (continued)

COMMON NAME	SPECIES	GROWTH HABIT <sup>2</sup>
Common chickweed	( <i>Stellaria media</i> )	A
Common ragweed	( <i>Ambrosia artemisiifolia</i> )	A
Corn spurry	( <i>Spergula arvensis</i> )	P
Dandelion	( <i>Taraxacum officinale</i> )	P
Dayflower	( <i>Commelina</i> spp.)	A/P
Desert camelthorn	( <i>Alhagi pseudalhagi</i> )	P
Diffuse knapweed	( <i>Centaurea diffusa</i> )	A
Dock	( <i>Rumex</i> spp.)	P
Dogfennel	( <i>Eupatorium capillifolium</i> )	A
Filaree	( <i>Erodium</i> spp.)	A
Fleabane	( <i>Erigeron</i> spp.)	A
Giant ragweed <sup>7</sup>	( <i>Ambrosia trifida</i> )	A
Goldenrod	( <i>Solidago</i> spp.)	P
Grey rabbitbrush	( <i>Chrysothamnus nauseosus</i> )	P
Gromwell	( <i>Lithospermum</i> spp.)	A
Groundcherry	( <i>Physalis</i> spp.)	A/P
Hawksbeard	( <i>Crepis</i> spp.)	A
Hoary vervain	( <i>Verbena stricta</i> )	P
Horsenettle	( <i>Solanum carolinense</i> )	P
Horseweed	( <i>Conyza canadensis</i> )	A
Indian mustard	( <i>Brassica juncea</i> )	A
Japanese bamboo	( <i>Polygonum cuspidatum</i> )	P
Knawel	( <i>Scleranthus annuus</i> )	A
Kochia <sup>3</sup>	( <i>Kochia scoparia</i> )	A
Lambsquarters	( <i>Chenopodium album</i> )	A
Lespedeza	( <i>Lespedeza</i> spp.)	P
Little mallow	( <i>Malva parviflora</i> )	B
Marigold	( <i>Tagetes</i> spp.)	P
Milkweed	( <i>Asclepias</i> spp.)	P
Miners lettuce	( <i>Montia perfoliata</i> )	A
Morningglory	( <i>Ipomoea</i> spp.)	A/P
Mullein	( <i>Verbascum</i> spp.)	B
Nettleleaf goosefoot	( <i>Chenopodium murale</i> )	A
Oxeye daisy	( <i>Chrysanthemum leucanthemum</i> )	P
Pennycress	( <i>Thlaspi</i> spp.)	A
Pepperweed	( <i>Lepidium</i> spp.)	A
Pigweed <sup>6</sup>	( <i>Amaranthus</i> spp.)	A
Pineapple weed	( <i>Matricaria matricarioides</i> )	P
Plantain	( <i>Plantago</i> spp.)	P
Pokeweed	( <i>Phytolacca americana</i> )	P
Prickly sida	( <i>Sida spinosa</i> )	A
Primrose	( <i>Oenothera kunthiana</i> )	P
Puncturevine	( <i>Tribulus terrestris</i> )	A
Purple loosestrife <sup>3</sup>	( <i>Lythrum salicaria</i> )	P
Purslane	( <i>Portulaca</i> spp.)	A
Ragweed	( <i>Ambrosia</i> spp.)	A
Rush skeletonweed <sup>3</sup>	( <i>Chondrilla juncea</i> )	B
Russian knapweed	( <i>Centaurea repens</i> )	P
Russian thistle <sup>3</sup>	( <i>Salsola kali</i> )	A
Saltbush	( <i>Atriplex</i> spp.)	A
Sesbania	( <i>Sesbania</i> spp.)	A
Sicklepod	( <i>Cassia obtusifolia</i> )	A
Silverleaf nightshade	( <i>Solanum elaeagnifolium</i> )	P

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**BROADLEAF WEEDS (continued)**

COMMON NAME	SPECIES	GROWTH HABIT <sup>2</sup>
Shepherd's purse	( <i>Capsella bursa-pastoris</i> )	A
Smartweed	( <i>Polygonum</i> spp.)	A/P
Sorrell	( <i>Rumex</i> spp.)	P
Sowthistle	( <i>Sonchus</i> spp.)	A
Speedwell	( <i>Veronica</i> spp.)	A
Stinging nettle <sup>3</sup>	( <i>Urtica dioica</i> )	P
Sunflower	( <i>Helianthus</i> spp.)	A
Sweet clover	( <i>Melilotus</i> spp.)	A/B
Tansymustard	( <i>Descurainia pinnata</i> )	A
Texas thistle	( <i>Cirsium texanum</i> )	P
Velvetleaf	( <i>Abutilon theophrasti</i> )	A
Western ragweed	( <i>Ambrosia psilostachya</i> )	P
Wild buckwheat	( <i>Polygonum convolvulus</i> )	A
Wild carrot	( <i>Daucus carota</i> )	B
Wild lettuce	( <i>Lactuca</i> spp.)	A/B
Wild parsnip	( <i>Pastinaca sativa</i> )	B
Wild radish	( <i>Raphanus raphanistrum</i> )	B
Wild turnip	( <i>Brassica campestris</i> )	B
Woollyleaf bursage	( <i>Franseria tomentosa</i> )	P
Yellow starthistle	( <i>Centaurea solstitialis</i> )	A
Yellow woodsorrel	( <i>Oxalis stricta</i> )	P

**VINES AND BRAMBLES**

COMMON NAME	SPECIES	GROWTH HABIT <sup>2</sup>
Blackberry <sup>4</sup>	( <i>Rubus</i> spp.)	P
Dewberry <sup>4</sup>	( <i>Rubus</i> spp.)	P
Field bindweed	( <i>Convolvulus arvensis</i> )	P
Greenbriar	( <i>Smilax</i> spp.)	P
Hedge bindweed	( <i>Calystegia sepium</i> )	A
Honeysuckle	( <i>Lonicera</i> spp.)	P
Kudzu <sup>5</sup>	( <i>Pueraria lobata</i> )	P
Morningglory	( <i>Ipomoea</i> spp.)	A/P
Poison ivy	( <i>Rhus radicans</i> )	P
Redvine	( <i>Brunnichia cirrhosa</i> )	P
Trumpet creeper <sup>7</sup>	( <i>Campsis radicans</i> )	P
Virginia creeper <sup>7</sup>	( <i>Parthenocissus quinquefolia</i> )	P
Wild buckwheat	( <i>Polygonum convolvulus</i> )	P
Wild grape	( <i>Vitis</i> spp.)	P
Wild rose	( <i>Rosa</i> spp.)	P

**BRUSH SPECIES**

Sahara<sup>®</sup> DG herbicide controls more than 30 species of brush.

<sup>1</sup> The higher rates should be used where heavy or well established infestations occur.

<sup>2</sup> Growth Habit - A = Annual, B = Biennial, P = Perennial

<sup>3</sup> For best results early postemergence applications are required.

<sup>4</sup> The degree of control is species dependent. Some *Rubus* species may not be completely controlled.

<sup>5</sup> Use a minimum of 75 GPA - Control of established stands may require repeat applications.

<sup>6</sup> Control is species dependent. A tank mix with Pendulum<sup>®</sup> herbicide for preemergence control and/or a postemergence application of a labeled herbicide may be required.

<sup>7</sup> Require a minimum of 12.85 pounds Sahara per acre.

<sup>8</sup> For best results tank mix with Oust<sup>®</sup> herbicide.

<sup>9</sup> Control of established stands may require repeat applications.

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