



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Registration Division (7505P)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

EPA Reg. Number:

19713-694

Date of Issuance:

4/6/17

NOTICE OF PESTICIDE:

Registration
 Reregistration
(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

DREXEL MES-O-SATE
HERBICIDE

Name and Address of Registrant (include ZIP Code):

Drexel Chemical Company
PO Box 13327
Memphis, TN 38113-0327

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 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 section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Signature of Approving Official:

Reuben Baris, Product Manager 25
Herbicide Branch, Registration Division (7505P)

Date:

4/6/17

2. You are required to comply with the data requirements described in the DCI Order identified below:
 - a. Metolachlor GDCI-108801-1506
 - b. Mesotrione GDCI-122990-1474

You must comply with all of the data requirements within the established deadlines. If you have questions about the Generic DCI Order listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division:

<http://iaspub.epa.gov/apex/pesticides/f?p=chemicalsearch:1>

3. The data requirements for storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) are not satisfied. A one year study is required to satisfy these data requirements. You have 18 months from the date of registration to provide these data.
4. Make the following label changes before you release the product for shipment:
 - Revise the EPA Registration Number to read, “EPA Reg. No. 19713-694.”
5. Submit one copy of the final printed label for the record before you release the product for shipment.

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.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 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. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 11/29/2016

If you have any questions, please contact Sarah Meadows by phone at 703-347-0505, or via email at meadows.sarah@epa.gov.

Enclosure



Mes-O-Sate

Herbicide

For post-emergence weed control in glyphosate tolerant Corn.

ACTIVE INGREDIENT:

Metolachlor.....	20.50%
Glyphosate, N-(phosphonomethyl) glycine	20.50%
Mesotrione.....	2.05%

OTHER INGREDIENTS: 56.95%

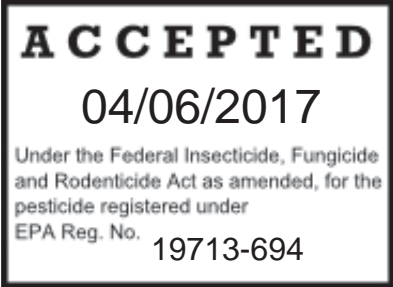
TOTAL: 100.00%

*This product contains 2.09 pounds of metolachlor, 2.09 pounds of glyphosate and 0.209 pound of mesotrione per gallon.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

See **FIRST AID** Below

**SHAKE WELL BEFORE USING
[RECIRCULATE CONTENTS BEFORE USE]**



**EPA Reg. No. 19713-XXX
EPA Est. No. 19713-XX-XXX**

Net Content: _____ Gals. (_____ L)

FIRST AID
<p>IF INHALED:</p> <ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
<p>IF IN EYES:</p> <ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
<p>IF SWALLOWED:</p> <ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have a person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything to an unconscious person.
<p>IF ON SKIN OR CLOTHING:</p> <ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice. <p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also call CHEMTREC at 800-424-9300 for emergency medical treatment information.</p>

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION: Harmful if inhaled. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some people.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear: Coveralls over short-sleeved shirt and short pants, chemical-resistant gloves, chemical-resistant footwear plus socks, chemical-resistant headgear for overhead exposure and chemical-resistant apron when cleaning equipment, mixing or loading

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

ENGINEERING CONTROLS

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

USER SAFETY RECOMMENDATIONS

Users should: 1) Wash hands thoroughly before eating, drinking, chewing gum, using tobacco or using the toilet. 2) Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. 3) Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

For terrestrial uses, 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 water or rinsate.

Ground Water Advisory

The active ingredient, metolachlor, has the potential to leach through soil into ground water under certain conditions as a result of agricultural use. Ground water may be contaminated if this product is used in areas where soils are permeable, particularly where the water table is shallow.

Surface Water Advisory

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

A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

Mixing and Loading Instructions

Take care when using this product to prevent back siphoning into wells, spills, or improper disposal of excess pesticide, spray mixtures or rinsates.

Check valves or anti-siphoning devices must be used on mixing equipment.

This product may not be mixed/loaded or used within 50 feet of wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well are prohibited, unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rain water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the

largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site.

PHYSICAL AND CHEMICAL HAZARDS

Do not use or store near heat or open flame.

Do not store, mix or apply this product or spray solutions of this product in unlined steel (except stainless steel), galvanized steel containers or sprayer tanks. This product or spray solutions of this product will react with these containers and tanks and produce hydrogen gas which may form a highly combustible mixture. This gas mixture could flash or explode causing serious personal injury if ignited by spark, open flame, lighted cigarette, welder torch or other ignition source.

Mix, store and apply spray solutions of this product using only stainless steel, fiberglass, plastic or plastic-lined steel containers.

PRODUCT INFORMATION

MES-O-SATE Herbicide is a systemic, post-emergence herbicide for contact followed by residual control of weeds in glyphosate tolerant Corn. Following a post-emergence application of this product, susceptible weeds take up the herbicide through the treated foliage and cease growth soon after application. This product is also absorbed through the soil and/or by the foliage of emerged weeds. Complete death of the weeds may take up to 2 weeks.

This product provides 3 to 4 weeks of residual control of newly emerging susceptible weeds (see **Table 1**) through root and shoot absorption.

DIRECTIONS FOR USE

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

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

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours. Exception: If the product is soil-injected or soil incorporated, the WPS, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the WPS and that involves contact with anything that has been treated, such as plants, soil or water is: Coveralls over short-sleeved shirt and short pants, chemical-resistant gloves, chemical-resistant footwear plus socks and chemical-resistant headgear for overhead exposure.

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

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

USE RESTRICTIONS

- Do not cultivate Corn within 7 days before or after application of this product as weed control may be reduced.
- Do not apply this product through any type of irrigation system.
- Do not apply this product with suspension fertilizers or urea ammonium nitrate (UAN) as carrier.
- Do not apply more than 4 pints of this product per acre per growing season.

USE PRECAUTIONS

- This product can be applied post-emergence to glyphosate tolerant Corn (Roundup Ready®). Application of this product to a Corn hybrid that is not glyphosate tolerant will result in crop death.
- When weeds are stressed due to drought, heat, lack of fertility, flooding or prolonged cool temperatures, control can be reduced or delayed since the weeds are not actively growing. Weed escapes or regrowth may occur when application is made under prolonged stress conditions. Optimum weed control will be obtained if an application of this product is made following label directions when weeds are actively growing.
- If an activating rain (0.25 inch) or equivalent irrigation is not received within 7 to 10 days after the post-emergence application, residual weed control will be reduced.
- Avoid drift onto adjacent crops. Severe damage or destruction may be caused by contact of this product to any vegetation (including leaves, green stems, exposed non-woody roots or fruit) of crops, trees and other desirable plants to which treatment is not intended.
- Severe Corn injury resulting in yield loss may occur if this product is applied post-emergence to Corn crops that were treated with terbufos (e.g., Counter®), chlorpyrifos (e.g., Lorsban®) or other organophosphate containing soil insecticides.
- Severe Corn injury resulting in yield loss may occur if this product is applied foliar post-emergence in a tank-mix with any organophosphate or carbamate insecticide.
- Severe Corn injury resulting in yield loss may occur if any foliar organophosphate or carbamate insecticide is applied post-emergence within 7 days before or 7 days after application of this product.
- Severe Corn injury may occur if this product is applied post-emergence in a tank-mix with emulsifiable concentrate (EC) products.
- This product may be applied with pyrethroid insecticides such as lambda-cyhalothrin (e.g., L-C Insecticide, Warrior®).
- Circulation before dispensing is required.
- To avoid contamination, ensure that the spray system is thoroughly cleaned with water and a commercial tank cleaner (e.g., Warsh-Out™) before and after each use.

WEED RESISTANCE MANAGEMENT

GROUP	15	9	27	HERBICIDES
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This product contains group 15, 9 and 27 herbicides.

To reduce the risk of weeds developing resistance to HPPD inhibitors, do not apply other post-emergence HPPD inhibitor herbicides [such as isoxaflutole (e.g., Balance® Flexx), tembotrione (e.g., Laudis®), topramezone (e.g., Impact®)] in the same season or on the same field where this product has been applied. A good weed resistance management strategy includes a herbicide program that contains two or more modes of action. This product contains three herbicide active ingredients and three modes of action and can be an effective component of a weed resistance management strategy.

Triazine and Acetolactate Synthase (ALS) Resistance

Naturally occurring biotypes of certain broadleaf and grass weed species with resistance to triazine or ALS herbicides are known to exist. If weed biotypes resistant to triazine or ALS inhibitors are present in the field, this product will control them if they are listed in **Table 1**.

Glyphosate Resistance

Some naturally occurring weed biotypes resistant to glyphosate may exist through normal genetic variability in any weed population. The repeated use of herbicides with the same mode of action is known to lead under certain conditions to a selection of resistant weeds. Certain agronomic practices reduce the likelihood that resistant weed populations will develop and integrated strategies are known to manage such problem weeds.

Glyphosate is one of the active ingredients in this product, thus, glyphosate resistance management is critical. This product will control broadleaf weeds that are showing increased tolerance or resistance to glyphosate. When applying

this product to broadleaf weeds that are suspected or known to be resistant to glyphosate, tank-mix with atrazine or dicamba to provide an additional mode of action. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank-mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank-mixture.

This product will not provide control of emerged grasses that are resistant to glyphosate. For control of glyphosate resistant grass weeds, a weed control program that includes a pre-emergence grass herbicide will reduce the dependence on glyphosate.

Best Weed Management practice includes the diversification of glyphosate dependent weed control programs with alternative mode of action herbicides or cultural practices.

- In Roundup Ready Corn and Roundup Ready Soybeans systems, do not use more than two applications of a glyphosate based herbicide over a two-year period. Diversify with alternative mode of action herbicides and/or cultural practices.
- In Roundup Ready Cotton, a maximum of three applications of a glyphosate based herbicide may be used if employing in-crop cultivation and/or residual herbicides.
- Use alternative (non-glyphosate) burndown and/or residual herbicides for Roundup Ready crops likely to require more than one application of glyphosate.
- To help manage Roundup Ready resistant volunteers, rotate Roundup Ready crops with conventional or non-Roundup Ready crops.
- Use full labeled rates of glyphosate and tank-mix partners. Minimize weed escapes.
- Monitor treated weed populations for any loss of field efficacy.
- Contact your local extension specialist, certified crop advisor and/or Crop Protection representative for herbicide resistance management and/or integrated weed management practices for specific crops and resistant weed biotypes.

WEEDS CONTROLLED

For best results, apply this product to actively growing weeds. For the best protection of the Corn crop's yield potential, apply this product before weeds exceed 4 inches in height or length. Susceptible weeds which emerge soon after an application of this product will be controlled for an additional 3 to 4 weeks.

Table 1. Weeds Controlled with Post-emergence Applications of This Product

Common Name	Scientific Name	Rate/Ac.	
		3.6 to 4 Pts. of This Product + NIS + AMS*	3.6 to 4 Pts. of This Product + Atrazine 4L + NIS + AMS**
GRASS WEEDS			
Barnyardgrass	<i>Echinochloa crus-galli</i>	C	C
Bluegrass, Annual	<i>Poa annua</i>	C	C
Brome, Downy	<i>Bromus tectorum</i>	C	C
Cheat	<i>Bromus secalinus</i>	C	C
Corn, Volunteer (non-glyphosate tolerant)	<i>Zea mays</i>	C ¹	C ¹
Crabgrass, Large	<i>Digitaria sanguinalis</i>	C	C
Crabgrass, Smooth	<i>Digitaria ischaemum</i>	C	C
Crowfootgrass	<i>Dactyloctenium aegyptium</i>	C	C
Cupgrass, Woolly	<i>Eriochloa villosa</i>	C ²	C ²
Foxtail, Bristly	<i>Setaria verticillata</i>	C	C
Foxtail, Giant	<i>Setaria faberii</i>	C	C
Foxtail, Green	<i>Setaria viridis</i>	C	C
Foxtail, Yellow	<i>Setaria Pumila</i>	C	C
Goosegrass	<i>Eleusine indica</i>	C	C
Johnsongrass	<i>Sorghum halepense</i>	C	C
Millet, Wild-proso	<i>Panicum miliaceum</i>	C	C
Oat, Wild	<i>Avena fatua</i>	C	C
Panicum, Fall	<i>Panicum dichotomiflorum</i>	C	C

Panicum, Texas	<i>Panicum texanum</i>	C	C
Sandbur, Field	<i>Cenchrus incertus</i>	C	C
Sandbur, Southern	<i>Cenchrus echinatus</i>	C	C
Shattercane	<i>Sorghum bicolor</i>	C	C
Signalgrass, Broadleaf	<i>Bracharia platyphylla</i>	C	C
Sorghum, Grain (Milo)	<i>Sorghum bicolor</i>	C	C
Starbur, Bristly	<i>Ancanthosporum hispidum</i>	C	C
Stinkgrass	<i>Eragrostis cilianensis</i>	C	C
Witchgrass	<i>Panicum capillare</i>	C	C
BROADLEAF WEEDS			
Amaranth, Palmer	<i>Amaranthus palmeri</i>	C ³	C
Amaranth, Powell	<i>Amaranthus powellii</i>	C	C
Amaranth, Spiny	<i>Amaranthus spinosus</i>	C	C
Anoda, Spurred	<i>Anoda cristata</i>	C	C
Atriplex	<i>Chenopodium orach</i>	C	C
Beggarweed, Florida	<i>Desmodium tortuosum</i>	C	C
Buckwheat, Wild	<i>Polygonum convolvulus</i>	C ⁴	PC
Buffalobur	<i>Solanum rostratum</i>	C	C
Burcucumber	<i>Sicyos angulatus</i>	C	PC
Carpetweed	<i>Mollugo verticillata</i>	C	C
Chickweed, Common	<i>Stellaria media</i>	C	C
Chickweed, Mouseear	<i>Cerastium vulgatum</i>	C	C
Cocklebur, Common	<i>Xanthium strumarium</i>	C	C
Copperleaf, Hophornbeam	<i>Acalypha ostryifolia</i>	C	C
Crotalaria, Showy	<i>Crotalaria spectabilis</i>	C	C
Croton, Tropic	<i>Croton glandulosus</i>	C	C
Dandelion, Common	<i>Taraxacum officinale</i>	C ⁵	PC
Dock, Curly	<i>Rumex crispus</i>	C	PC
Eclipta	<i>Eclipta prostata</i>	C	C
Galinsoga	<i>Galinsoga parviflora</i>	C	C
Groundcherry, Smooth	<i>Physalis longifolia</i>	C	PC
Groundsel, common	<i>Senecio vulgaris</i>	C	C
Hemp	<i>Cannabis sativa</i>	C	C
Henbit	<i>Lamium amplexicaule</i>	C	C
Horsenettle	<i>Solanum carolinense</i>	C	C
Horseweed (Marestail)	<i>Coryza canadensis</i>	C ³	C
Jimsonweed	<i>Datura stramonium</i>	C	C
Knotweed, Prostrate	<i>Polygonum aviculare</i>	C	C
Kochia	<i>Kochia scoparia</i>	C ⁶	PC
Lambsquarters, Common	<i>Chenopodium album</i>	C	C
Mallow, Venice	<i>Hibiscus trionum</i>	C	C
Marshelder	<i>Iva xanthifolia</i>	C	C
Morningglory, Entireleaf	<i>Ipomoea hederacea</i>	C ⁴	PC
Morningglory, Ivyleaf	<i>Ipomoea hederacea</i>	C ⁴	PC
Morningglory, Pitted	<i>Ipomoea lacunose</i>	C ⁴	PC
Morningglory, Tall	<i>Ipomoea purpurea</i>	C ⁴	PC
Mustard, Wild	<i>Brassica kaber</i>	C	C
Nightshade, Black	<i>Solanum nigrum</i>	C	C
Nightshade, Eastern black	<i>Solanum ptycanthum</i>	C	C
Nightshade, Hairy	<i>Solanum sarrachoides</i>	C	C
Pennycress, Field	<i>Thlaspi arvense</i>	C	C
Pigweed, Prostrate	<i>Amaranthus blitoides</i>	C	C
Pigweed, Redroot	<i>Amaranthus retroflexus</i>	C	C
Pigweed, Smooth	<i>Amaranthus hybridus</i>	C	C
Pigweed, Tumble	<i>Amaranthus albus</i>	C	C
Pokeweed, Common	<i>Phytolacca americana</i>	C	C
Potatoes, Volunteer	<i>Solanum spp.</i>	C	C
Puncturevine	<i>Tribulus terrestris</i>	C	PC
Purslane, Common	<i>Portulaca oleracea</i>	C	C
Pusley, Florida	<i>Richardia scabra</i>	C	PC
Ragweed, Common	<i>Ambrosia artemisiifolia</i>	C ³	C
Ragweed, Giant	<i>Ambrosia trifida</i>	C ³	C

Senna, Coffee	<i>Senna occidentalis</i>	C	C
Sesbania, Hemp	<i>Sesbania exaltata</i>	C	C
Shepherd's purse	<i>Capsella bursa-pastoris</i>	C	C
Sicklepod	<i>Senna obtusifolia</i>	C ²	C ²
Sida, Prickly (Teaweed)	<i>Sida spinosa</i>	C	PC
Smartweed, Ladysthumb	<i>Polygonum persicaria</i>	C	C
Smartweed, Pale	<i>Polygonum lapathifolium</i>	C	C
Smartweed, Pennsylvania	<i>Polygonum pensylvanicum</i>	C	C
Spurge, Prostrate	<i>Euphorbia humistrata</i>	C	C
Spurge, Spotted	<i>Euphorbia maculata</i>	C	C
Sunflower, Common	<i>Helianthus annuus</i>	C	C
Thistle, Canada	<i>Cirsium arvense</i>	C ⁶	C
Velvetleaf	<i>Abutilon theophrasti</i>	C	C
Waterhemp, Common	<i>Amaranthus rudis</i>	C ³	C
Waterhemp, Tall	<i>Amaranthus tuberculatus</i>	C ³	C
SEDGE			
Nutsedge, Purple	<i>Cyperus rotundus</i>	C	PC
Nutsedge, Yellow	<i>Cyperus esculentus</i>	C	PC
<p>*Apply to weeds less than 4 inches in height or length. **Apply to weeds 4 to 10 inches in height or length. ¹Will not control glyphosate tolerant Volunteer corn. ²Will not provide residual control. ³For glyphosate resistant weeds such as Common ragweed, Giant ragweed, Horseweed (Marestail), Palmer amaranth and Waterhemp, addition of atrazine will improve control. ⁴Maximum runner length of less than 4 inches. ⁵Plant diameter of less than 4 inches for control. ⁶Control may be reduced at the button stage or when less than 2 inches in height. NIS = Nonionic Surfactant; AMS= Ammonium Sulfate; C = Control; PC = Partial Control</p>			

ROTATIONAL CROPS

If Corn crop is lost or destroyed following an application of this product, follow the rotational guidelines below. If this product is applied sequentially or in a tank-mix with other herbicides, refer to the rotational guidelines on all other herbicide labels and follow the most restrictive guidelines.

Table 2. Time Interval Between Application of This Product and Replanting or Planting of Rotational Crop

Crop		Replant / Rotational Interval
Corn (all types)	Sweet sorghum	Anytime
Grain sorghum (Concep [®] treated only)		
Barley	Rye	4.5 mos.
Oats	Wheat	
Alfalfa	Rice	10 mos.
Asparagus	Ryegrass (perennial and annual) grown for seed	
Cotton		
Kentucky bluegrass grown for seed	Snap beans ^{1,2}	
Peanuts	Soybeans	
Peas ^{1,2}	Sunflowers	
Potato	Tall fescue grown for seed	
Rhubarb	Tobacco	
Canola	Flax	12 mos.
All other rotational crops		18 mos.
<p>¹Plant these rotational crops only if the following criteria below have been met. If all criteria are not met, plant Peas and Snap beans a minimum of 18 months following application of this product.</p> <ul style="list-style-type: none"> • A minimum of 20 inches of rainfall plus irrigation has been received between application and planting of the rotational crop. • Soil pH is 6.0 or greater. • Application of this product no later than June 30th the year preceding rotational crop planting. • No other HPPD herbicides [such as products containing mesotrione (e.g., Callisto[®], Callisto[®] Xtra, Lexar[®] EZ, Lumax[®] EZ, Zemax[®]), isoxaflutole (e.g., Balance Flexx, Corvus[®]), tembotrione (e.g., Capreno[®], Laudis), topramezone (e.g., Armezon[™], Impact) were applied the year prior to planting Peas and Snap beans. <p>²Do not plant Peas or Snap beans on sand, sandy loam or loamy sand soils in Minnesota or Wisconsin.</p>		

APPLICATION PROCEDURES

Refer to the “*CROP USE DIRECTIONS*” section for specific crop instructions.

USE OF ADJUVANTS

For post-emergence applications to glyphosate tolerant Corn, add a nonionic surfactant at 1 to 2 quarts per 100 gallons of water (0.25 to 0.5% v/v) to the spray solution. Use the higher rate of nonionic surfactant when weeds are growing under stress conditions (e.g. cool temperatures, dry weather, etc.).

In addition to nonionic surfactant, add spray grade ammonium sulfate (AMS) at 8.5 to 17.0 pounds per 100 gallons of water. When using liquid AMS products, use a rate that delivers an AMS equivalent of 8.5 to 17.0 pounds per 100 gallons of water.

The use of this product with urea ammonium nitrate (UAN) instead of AMS will result in crop injury and reduced grass weed control.

GROUND APPLICATION

Ensure that spray nozzles are uniformly spaced, same size and type and provide accurate and uniform application. Use spray nozzles that provide medium to coarse droplet size to provide good coverage and avoid drift. Good weed coverage is essential for optimum weed control. Base boom height for broadcast over-the-top applications on the height of the crop – at least 15 inches above the crop canopy.

Flat fan (80° or 110°) or Turbo Tee Jet nozzles will provide optimum coverage. Do not use flood jet nozzles or controlled droplet application equipment for applications of this product.

Nozzles may be angled 45° forward or backward to enhance penetration of the crop and provide better coverage. Ensure that all in-line strainer and nozzle screens in the sprayer are 50 mesh or coarser.

Apply this product in a spray volume of 10 to 30 gallons per acre. Use a pump that can maintain a pressure of at least 35 to 40 psi at the nozzles (check nozzle manufacturer’s instructions) and provide proper agitation within the tank to keep the product dispersed. Lower pressures may be used with extended range or drift reduction nozzles. When weed foliage is dense, use a minimum of 15 gallons per acre.

Always ensure that agitation is maintained until spraying is completed even if spraying is stopped for brief periods. If the agitation is stopped for more than 5 minutes, re-suspend the spray solution by running on full agitation prior to spraying.

CLEANING EQUIPMENT AFTER APPLICATION

Special attention must be given to cleaning equipment before spraying a crop other than glyphosate tolerant Corn. Mix only as much spray solution as needed.

1. Flush tank, hoses, boom and nozzles with clean water.
2. Prepare a cleaning solution of 1 gallon of household ammonia per 25 gallons of water. Many commercial spray tank cleaners may be used.
3. Use a pressure washer to clean the inside of the spray tank with this solution. Take care to wash all parts of the tank, including the inside top surface. If a pressure washer is not available, completely fill the sprayer with the cleaning solution to ensure contact of the cleaning solution with all internal surfaces of the tank and plumbing. Start agitation in the sprayer and thoroughly re-circulate the cleaning solution for at least 15 minutes. Remove all visible deposits from the spraying system.
4. Flush hoses, spray lines and nozzles for at least 1 minute with the cleaning solution.
5. Dispose of rinsate from steps 1 to 3 in an appropriate manner.
6. Repeat steps 2 to 5.
7. Remove nozzles, screens, and strainers and clean separately in the ammonia solution after completing the above procedures.
8. Rinse the complete spraying system with clean water.

SPRAY DRIFT

The interaction of equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making a decision.

Apply the pesticide only when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas). Do not apply when weather conditions may cause drift to non-target areas.

The most effective way to reduce spray drift potential is to apply large 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.

AERIAL APPLICATION

This product may be applied aerially for post-emergence weed control in glyphosate tolerant Corn only in the following states: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Nebraska, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin and Wyoming.

Applications must be made in a minimum of 2 gallons of water per acre.

Restrictions: For aerial application, use only nozzles producing coarse-ultra coarse droplets. Do not use nozzles producing fine-medium size droplets.

ADDITIONAL SPRAY DRIFT PRECAUTIONS FOR AERIAL APPLICATION

The distance of the outer-most nozzles on the boom must not exceed three-fourths the length of the wingspan or rotor.

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 must be observed.

Spray must be released at the lowest height consistent with effective weed control and flight safety.

For best results, each specific aerial application vehicle used should be quantifiably pattern tested initially for aerial application of this product and every year thereafter.

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

Do not make applications 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.

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.).

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Avoid application 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 drift.

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.

Avoid applying 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 connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

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, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

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

Do not apply under conditions which favor runoff or wind erosion of soil containing this product to non-target areas. To prevent off-site movement due to runoff or wind erosion, avoid treating powdery dry or light soils when conditions are favorable for wind erosion. Under these conditions, ensure that the soil surface is settled by rainfall or irrigation first. Do not apply to impervious substrates such as paved or highly compacted surfaces. Do not use tailwater from the first flood or furrow irrigation of treated fields to treat non-target crops unless at least one-half inch of rainfall has occurred between application and the first irrigation.

MIXING PROCEDURES

Refer to the “*CROP USE DIRECTIONS*” section of this label for listed tank-mixes.

Always refer to labels of other pesticide products for mixing directions and precautions which may differ from those outlined here. Use in accordance with the most restrictive of label limitations and precautions. Do not exceed any label dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing. Do not tank-mix this product with any other insecticide, fungicide, fertilizer solution or adjuvant not listed on the label without testing compatibility, as poor mixing may result. Test the compatibility of any tank-mix combination on a small scale such as a jar test before actual tank-mixing.

Follow the mixing instructions below for adding this product to the spray tank.

Only use sprayers in good running condition with good agitation. Ensure that the sprayer is cleaned according to instructions on label of the product used prior to this product. Use only clean water for the spray solution. Ensure that all in-line strainer and nozzle screens in the sprayer are 50 mesh or coarser. Avoid using screens finer than 50 mesh.

When adding products to the spray tank, make sure each product is added separately and thoroughly agitated before adding the next product. If using an induction tank, add only one product at a time. For example, add water, then add atrazine to the induction tank and transfer to spray tank, rinse induction tank with water, then add this product.

1. Fill tank one-half full of clean water and start agitation.
2. Add ammonium sulfate (AMS).
3. Add nonionic surfactant.
4. Add atrazine. Make sure atrazine is fully dispersed before other products are added to the mix.
5. Add fungicide (if applicable).
6. Add this product.
7. Add emulsifiable concentrate (EC) products (e.g., insecticides) last. Be aware that adding any EC type product will increase the risk for crop injury.
8. Fill tank with water to the desired level.

CROP USE DIRECTIONS

CORN (GLYPHOSATE TOLERANT)

This product may be applied post-emergence only in glyphosate tolerant Corn (Roundup Ready) for control of the weeds listed in **Table 1**. When glyphosate tolerant Corn is grown under no-till conditions, control all emerged weeds at the time of Corn planting with a glyphosate (e.g., Imitator[®], Roundup[®]) or paraquat (e.g., Quik-Quat[™], Gramoxone[®]) based herbicide program. Following a burndown weed control application and after glyphosate tolerant Corn emergence, this product can be applied post-emergence to control the weeds listed in **Table 1**.

PRE-EMERGENCE

This product is specifically formulated for post-emergence in crop use and does not contain a Corn safener. Therefore, this product is not labeled for early pre-plant or pre-emergence applications.

THIS PRODUCT ALONE - POST-EMERGENCE

This product may be applied at a rate of 3.6 to 4.0 pints per acre from Corn emergence up to 30 inches in height or the 8 leaf stage of Corn growth. Apply this product to actively growing weeds listed in **Table 1**. For the best protection of the Corn crops yield potential, apply this product before weeds exceed 4 inches in height, length or diameter. Use the higher end of the use rate range of this product (i.e., 4.0 pts./Ac.) when weeds are stressed or weed populations are dense.

Apply this product with a nonionic surfactant and ammonium sulfate (AMS). See the “*ADJUVANTS*” section for specific instructions.

Visible effects on annual weeds occur within 2 to 4 days after application. Effects on perennial weeds may take 7 days or longer. Extremely cool or cloudy weather following treatment may slow activity.

Weeds susceptible to metolachlor or mesotrione which emerge soon after application of this product will be controlled after they absorb the herbicides from the soil. The active ingredients contained in this product are in adequate amounts to provide 3 to 4 weeks of residual weed control extending through crop canopy. If an activating rain (0.25 inches) is not received within 7 to 10 days after the post-emergence application, residual weed control will be reduced.

Applying this product at rates less than 3.6 pints per acre may result in incomplete weed control, as well as less residual weed control. Using reduced rates of this product also increases the risk for the development of weed resist biotypes. See the “*WEED RESISTANCE MANAGEMENT*” section of this label for specific instructions.

THIS PRODUCT – SEQUENTIAL WEED CONTROL

This product may be applied as the post-emergence component of a two-pass weed control program. Apply pre-emergence products at labeled rates and follow with a post-emergence application of this product at 3.6 to 4.0 pints per acre. Do not reduce the rate of this product when applied in a sequential program with pre-emergence products containing mesotrione.

This product may also be applied following pre-emergence application of products containing mesotrione (e.g., Callisto, Mesotrione™ 4L) not to exceed 0.24 pound of mesotrione a.i. per acre per year.

Apply this product with a nonionic surfactant and ammonium sulfate (AMS). See the “*ADJUVANTS*” section for specific adjuvant instructions.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank-mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank-mixture.

THIS PRODUCT – TANK-MIXED WITH ATRAZINE

Apply this product at 3.6 to 4.0 pints per acre in tank-mixture with atrazine (e.g., Atrazine 4L, Atrazine 90DF). If weeds are more than 4 inches tall or for improved broadleaf weed control, add atrazine (e.g., Atrazine 4L) at a rate of 0.25 to 2.0 pounds a.i. per acre. Alternatively, Atrazine 90DF may be mixed with this product in place of Atrazine 4L at a rate that delivers 0.25 to 2.0 pounds a.i. per acre. Atrazine rates above 0.5 pound a.i. per acre may result in glyphosate antagonism and reduced grass control.

Apply this product in tank-mixture with atrazine (e.g., Atrazine 4L or Atrazine 90DF) with a nonionic surfactant and ammonium sulfate (AMS). See the “*ADJUVANTS*” section of this label for specific instructions.

When tank-mixing or sequentially applying atrazine or products containing atrazine with this product to glyphosate tolerant Corn, do not exceed an application rate of 2.0 pounds atrazine a.i. per acre for any single application and the total pounds of atrazine applied (lbs. a.i./Ac.) must not exceed 2.5 pounds a.i. per acre per year. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank-mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank-mixture.

If no atrazine was applied prior to Corn emergence, apply a maximum of 2.0 pounds a.i. per acre broadcast. If a post-emergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 pounds a.i. per acre per calendar year.

Do not apply any atrazine formulation if Corn is greater than 12 inches tall.

THIS PRODUCT – TANK-MIXED WITH PRODUCTS CONTAINING DICAMBA

Tank-mix this product at 3.6 to 4 pints per acre with products containing dicamba (e.g., Clarity®, Distinct®, Northstar® Custompak or Status®) plus nonionic surfactant at 1 quart per 100 gallons plus spray grade ammonium sulfate (AMS) for improved control of difficult broadleaf weeds as a post-emergence application in glyphosate tolerant Corn.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank-mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank-mixture.

If compatibility of the tank-mix combination is not known, test the compatibility of any tank-mix combination on a small scale such as a jar test before actual tank-mixing.

USE PRECAUTIONS

1. Temporary crop response (transient bleaching) from post-emergence applications to glyphosate tolerant Corn may occur under extreme weather conditions or when the crop is suffering from stress. Corn quickly outgrows these effects and develops normally.
2. If additional glyphosate (e.g., Imitator, Roundup) is tank-mixed or applied sequentially with this product as a post-emergence treatment in glyphosate tolerant Corn, refer to the specific glyphosate label for in crop rate restrictions.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank-mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank-mixture.

CORN USE RESTRICTIONS

1. Pre-grazing Interval (PGI): Do not graze or feed forage from treated areas for 45 days following application.
2. Pre-harvest Interval (PHI): Do not harvest forage, grain or stover within 45 days after application. Do not harvest ears of Sweet corn within 60 days after application.
3. Do not apply more than 4 pints of this product (0.105 lb. mesotrione, 1.05 lb. metolachlor and 1.05 lb. glyphosate) per acre per year.
4. Do not make more than 1 application per year.
5. Do not make applications of this product past the 8 leaf stage of growth (or more than 30 inches tall) in glyphosate tolerant Corn.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in original container. Keep container tightly closed. This product can be stored at temperatures as low as minus 20°F. Keep away from heat and flame.

PESTICIDE DISPOSAL: To avoid waste, use all materials in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often, such programs are run by State or local governments or by industry).

CONTAINER HANDLING:

Nonrefillable Container (rigid material; less than 5 gallons): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container one-fourth full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Nonrefillable Container (rigid material; 5 gallons up to < 250 gallons): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container one-fourth full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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

WARRANTY — CONDITIONS OF SALE

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

Manufactured By:



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